

# MEDICAL WORLD NEWS

DECEMBER 2, 1960

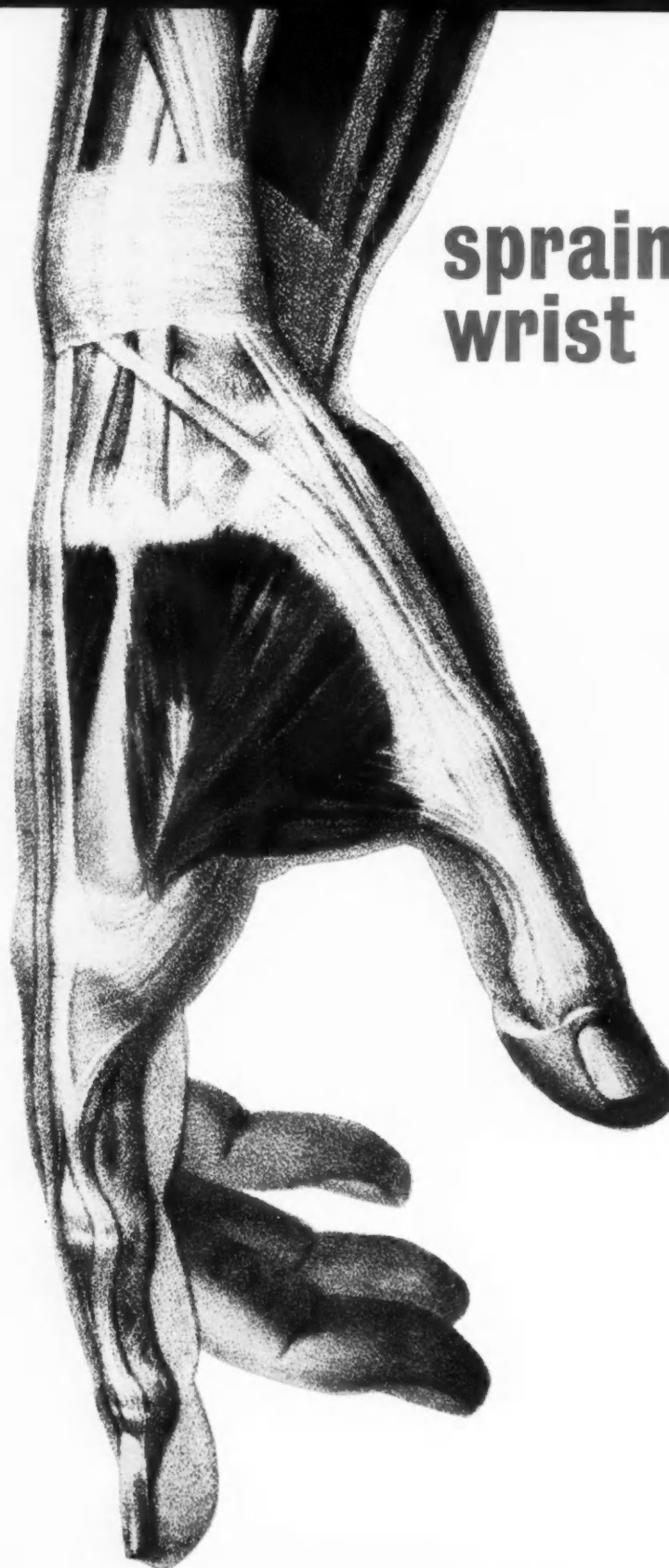


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## THE BOOM IN GROUP PRACTICE

**How To See  
A Duodenal Ulcer**

Jacob B. Farris, M.D.  
University of Kentucky  
Lexington 1, Ky.



## sprained wrist

Analgesics alone merely mask pain. New Medaprin adds Medrol\* to suppress the inflammation that *causes* the pain and stiffness. Thus, to the direct relief of musculoskeletal pain,

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## IN VITRO SENSITIVITY OF COAGULASE-POSITIVE STAPHYLOCOCCI TO CHLOROMYCETIN FROM 1955 TO 1959\*

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| 1955 | 96%  |
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These sensitivity tests were done by the disc method on 310 strains of coagulase-positive staphylococci. Strains were isolated from patients seen in the emergency room. It should be noted that among inpatients, resistant strains were considerably more prevalent.

\*Adapted from Bauer, A. W.; Perry, D. M., & Kirby, W. M. M.: *J.A.M.A.* 173:475, 1960.

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THE NEWSMAGAZINE OF MEDICINE

# MEDICAL WORLD NEWS

DECEMBER 2, 1960

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On the cover:

Panorama of color from massive spectrograph at Argonne Laboratories is revealing new facts about the effect of light rays on cell chemistry and biological clocks.

Story on p. 32



# LATE NEWS

## C. ALBICANS IDENTIFIED IN ONE DAY BY NEW TEST

A simplified test that may cut moniliasis diagnosis time from one or two weeks to one day is being studied at the U.S. Public Health Service's Communicable Disease Center in Atlanta, Georgia.

Diagnosis is now a lengthy procedure involving the differentiation of *Candida albicans*, the commonest fungus to cause human disease, from a variety of other innocuous fungi.

The bacteriology department of Juntendo University in Tokyo has developed an agglutination test relying on the preparation of mono-specific anti-sera.

"Preliminary results indicate that it will be a very practical laboratory tool, providing rapid and accurate identification," says CDC biologist Libero Ajello. But the preparation of the typing sera is difficult and time-consuming, and so far it has not been done on a large scale, he told the Southeastern Allergy Association.

## HYPERTENSION DEATH RATES REDUCED BY NEW DRUGS

Antihypertensive drugs introduced in the last ten years have cut death rates from high blood pressure almost in half.

This is the most striking finding yet to come out of a study analyzing the five-year mortality rates of patients before the drugs were introduced and those treated since then, either medically or surgically, Dr. Dera Kinsey of Boston reports.

The results of the Massachusetts Memorial Hospital survey indicate that over-all mortality rates for drug treated patients have fallen from 53 to 27 per cent; mortality rates in surgically treated patients in the same period rose from 18 to 24 per cent; the new drugs are most effective in patients with slight to moderate cardiovascular disease, least so in women with severe cardiovascular disease.

These findings, part of a long-range survey of 2,822 hypertensive patients, are aimed at developing more specific therapeutic techniques for controlling high blood pressure. Patients included in the study were all first seen between 1944 and 1954. Mortality rates were calculated for groups according to age, sex, kind of therapy and diagnosis.

But the differences found could not be attributed to the composition of the groups studied, the Boston physician said. Groups were matched equally by age, sex and degree of involvement of the cardiovascular system. "It seems reasonable, therefore," said Dr. Kinsey, "to assume that the decrease in mortality of medically treated patients is due to the effectiveness of these new anti-hypertensive drugs."

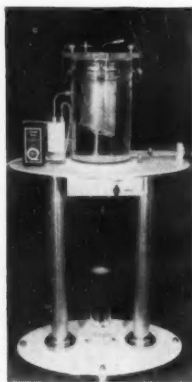
## HYDRAULIC INJECTION OF PARENTERAL FLUID

A hydraulic apparatus that can automatically feed parenteral fluids at 200 different speeds for prolonged periods has been developed at St. Vincent's Hospital, New York City.

A plastic bag containing the fluid to be administered is suspended in a transparent plastic cylinder filled with water. The top of the cylinder is sealed, all air evacuated and water is forced from a lower reservoir into the cylinder by a noiseless micro-precision pump. Water pressure gradually collapses the bag, forcing the fluid into a tube leading to the patient.

The prescribed rate—in a range between 0.05 and 10 cc per minute—is set on a dial that regulates the pump. A buzzer sounds a warning when the bag is empty or if the needle is plugged.

The device was designed by Dr. George Kulick, working under a research grant from the Culpepper Foundation, to enable physicians to administer blood and chemotherapeutic agents simply, continuously and in accurate amounts. Dr. Kulick says the apparatus is of special value when chemotherapeutic drugs are given in the treatment of malignant disease, for administration of oxytocic drugs to obstetrical patients and for alimentary tract feeding. When antibiotics are given in this manner, the blood level can be maintained more evenly, he says. Continuous pumping also has the advantage of reducing the incidence of needle plugging.



## OPERATING THEATRE LAMPS MAY PRODUCE COMPLICATIONS

Ultraviolet radiation and even ordinary illumination in the operating room may be a cause of complications following abdominal surgery, warns a New Orleans investigator.

In a series of experiments on rabbits, Dr. J. H. Nix has found that ten minute short-wave UV illumination of the liver produces "marked" perihepatitis. Ten days after irradiation, the organ displays the characteristic "sugar icing" texture of *zuckerguss-leber*. Long-wave UV, infrared and visible light bring on mild damage.

Operating theatre lights, suggests Dr. Nix, "may be a cause of some post-operative adhesions." His findings also "raise questions about the operating room use of UV lamps" for germicidal or diagnostic purposes.

Some of the observed damage, he believes, may stem from the heat and desiccation produced by light. Wet laparotomy packs and a saline spray reduce or eliminate this trauma.

The New Orleans surgeon also notes that UV irradiation may prove useful in studying liver function in animals, since it destroys the capsular lymphatic system without damaging the interior of the organ.

## TENDON STRIP SURGERY FOR RUPTURED ACHILLES'

Severe injuries seldom occur as a result of ballroom dancing, but when it comes to the manly Highland fling performed by kilted Scots, snapping of the Achilles' tendon is not uncommon, according to Dr. Douglas L. Savill of Edinburgh. He has developed a "nearly perfect" method to return the victim, good as new, to the etiological environment.

Instead of the standard suture on the ruptured tendon, Dr. Savill used strips of the superficial tendinous raphe of the gastrocnemius and soleus muscles. The strips are stopped short of the rupture by one inch, threaded onto a fallie needle that is passed anteriorly through the proximal tendon and posteriorly through the distal stump. The strips are sutured to the distal tendon at their point of emergence, and the ends are sutured to the proximal line of the tendon. After completing the operation, the superficial, gliding surface of the tendinous

strips remains in the normal relationship to the sheath.

Using three or four strips, Dr. Savill thus bridges the rupture by six or eight bands of tendon. The usual gap is avoided and all 33 patients he has treated recovered with a stronger calf muscle than those whose tendon was repaired with the standard suture.

#### **ix FOR PHYSICIANS TO CURE CACOGRAPHY**

The Handwriting Foundation in Washington has set out to establish a program to cure medical cacography, which is reaching epidemic levels.

Cacography is a disease of the hand better known as illegible handwriting. (In France it is also known as the *Pattes de Mouche* syndrome because the affected handwriting presents a striking resemblance to tracks left on paper by a fly that has dipped its legs in ink.)

Poor handwriting is so common among physicians, according to the Foundation, that once a narcotics addict was caught forging a prescription because he wrote it too clearly: "The pharmacist knew it couldn't have been done by a doctor."

A pilot project aimed at eliminating medical cacography will be carried out at Mount Sinai Hospital in New York, where the Foundation will sponsor five two-hour classes. A booth will be set up in the hospital's cafeteria to give physicians quick tips on writing.

The project was requested by Mount Sinai Hospital administrators because illegibility of prescriptions and clinical charts was adding up to "great loss of time, money and efficiency." A special telephone had to be installed at the dispensing window to help locate physicians for prescription decoding. "Sometimes a physician can't understand his own handwriting," complains Annette Krauss, chief medical records librarian.

If the pilot program succeeds, the Foundation will make instructional material for physicians available to other institutions. But the Foundation had earlier observed that in some ecological groups, cacography appears to be incurable and interruption of classes is followed by prompt relapse. Foundation members declined to venture a prediction on the outcome of the current experiment.

#### **HYPERTENSION TRACED TO RENAL ARTERIAL DISEASE**

The prognosis for one type of hypertension could take a sharp turn for the better.

After a five-year study of more than 100 cases of renal arterial disease, three Cleveland Clinic experts have concluded that: 1) renal arterial disease is an unsuspectedly common cause of hypertension; 2) it can be specifically diagnosed; 3) it is surgically curable.

In a study of 427 hypertensive patients, Drs. E. F. Poutasse, Harriet Dustan and Irvine H. Page found that more than a quarter of the patients



**DR. POUTASSE** of Cleveland Clinic.

had renal arterial disease. "The true frequency of renal hypertension," says the team, "is not known because no one as yet has used renal arteriography as part of a routine investigation in large groups of normotensive and hypertensive patients."

Accordingly, "we recommend renal arteriograms in all hypertensives under the age of 35, in all malignant hypertensives over the age of 60 and in any patient with a sudden onset of malignant hypertension or whose mild hypertension rapidly becomes worse."

Only renal arteriography, they believe, provides a definitive diagnosis. Function tests of the individual kidneys or I<sup>131</sup> renography cannot determine the nature of the lesion or whether it is present on one or both sides. Using renal arteriography, they specifically located occlusive lesions in one or both renal arteries, a major branch or an accessory artery in 131 of the 427 patients studied.

Eighty of the 131 patients were selected for surgical treatment. The

techniques selected were designed not only to relieve the patient's hypertension but, wherever possible, to restore kidney function.

Ten patients died postoperatively. Of the remaining 70 patients, nearly three-quarters showed improvement. In 39, both systolic and diastolic hypertension were relieved. Some decrease in arterial pressure occurred in 12. Only nine showed no change.

#### **DOCTORS ADVISED TO CHECK FOR TRUE CHROMOSOMAL SEX**

A warning to all physicians to watch for signs of pseudohermaphroditism in newborns was issued at the Inter-Society Cytology Council.

If there is an enlarged clitoris, a fused labia or any suspicion of a genital abnormality, the true chromosomal sex should be determined immediately, Dr. A. E. Rakoff of Philadelphia cautioned. "Surgical correction can come later," he said. "But surgery can never repair the psyche of an individual raised against his or her true sex."


Chromosomal sex can be determined easily by the buccal smear test, explained the Jefferson Medical College gynecologist.

While the condition is still rare, the general practitioner may be seeing more and more pseudohermaphrodites, Dr. Rakoff believes. Indications are, he said, that the sex hormone derivatives, now generally used to stave off threatened abortion, can induce genital abnormalities in certain instances. "If these abnormalities are diagnosed at birth, the future problems can at least be cut in half."

#### **PINEAPPLE ENZYMES HELP DETECT ACQUIRED HEMOLYTIC ANEMIA**

Pineapple stem enzymes, which tenderize meat and defoam beer, now may permit the physician to make a positive diagnosis of acquired hemolytic anemia.

Dr. Bernard Pirofsky and co-workers of the University of Oregon Medical School, Portland, have diagnosed 45 patients by means of a simple new test employing these enzymes. Oregon doctors are using it in office practice. It is rapid, reliable and reproducible, they note, and it avoids the problems of the more tedious, variable rabbit antiglobulin serum test.



**You see an improvement within a few days**  
Thanks to your prompt treatment and the smooth action of Deprol, her depression is relieved and her anxiety and tension calmed — *often in a few days*. She eats well, sleeps well and soon returns to her normal activities.

## Lifts depression...as it calms anxiety!

Smooth, balanced action lifts depression as it calms anxiety...rapidly and safely

**Balances the mood** — no "seesaw" effect of amphetamine-barbiturates and energizers. While amphetamines and energizers may stimulate the patient — *they often aggravate anxiety and tension*.

And although amphetamine-barbiturate combinations may counteract excessive stimulation — *they often deepen depression*.

In contrast to such "seesaw" effects, Deprol's smooth, *balanced* action lifts depression as it calms anxiety — both at the same time.

**Acts swiftly** — the patient often feels better, sleeps better, within a few days.

Unlike the delayed action of most other antidepressant drugs, which may take two to six weeks to bring results, Deprol relieves the patient quickly — often within a few days. Thus, the expense to the patient of long-term drug therapy can be avoided.

**Acts safely** — no danger of liver damage.

Deprol does not produce liver damage, hypotension, psychotic reactions or changes in sexual function — frequently reported with other antidepressant drugs.

**Dosage:** Usual starting dose is 1 tablet q.i.d. When necessary, this dose may be gradually increased up to 3 tablets q.i.d.

**Composition:** 1 mg. 2-diethylaminoethyl benzoate hydrochloride (benactyzine HCl) and 400 mg. meprobamate. **Supplied:** Bottles of 50 light-pink, scored tablets. Write for literature and samples.

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## A LETTER FROM THE PUBLISHER

A few weeks ago in this space I did some thinking out loud about ways of encouraging talented young men and women to pick medicine as a career. Since MEDICAL WORLD NEWS is vitally interested in this problem, I had hoped that my tentative comments might stir up some suggestions. They did indeed. Judging by my mail there are quite a few lively projects going on across the country.

A leading force in this field is the American Medical Education Foundation, established in 1951 by the AMA. This group has raised about nine million dollars which it has distributed to the nation's medical schools in the form of unrestricted grants. The AMA itself has prepared a film and material for speakers and is working through vocational offices of the nation's high schools to provide extensive information on the requirements and opportunities of medical careers.

A number of pharmaceutical houses are also actively working toward the goal of providing more and better physicians for the future. For example, A. H. Robins and Parke-Davis devote a considerable share of their advertising budgets to advertisements in the lay press which call attention to the rewards of today's intensive medical training as well as the contributions medicine makes to society. And Smith Kline & French and Merck Sharp & Dohme both sponsor television programs specifically aimed at recruitment of talented young people into the medical profession.

A different approach is being taken by the University of Chicago and the Essex County (N. J.) Medical Society. Each has a program of bringing selected high school students into medical schools and hospitals to show them just what medical practice, education and research are all about. In Essex County, the visits are among a number of activities conducted among unique Future Physicians Clubs.

For our part, we at MEDICAL WORLD NEWS plan to focus attention on the facts behind the problem of doctor recruitment and some of the attempts to solve it. On page 22 of this issue, for example, we present some views on the formidable problem of paying for medical education—one reason so many students are taking PhDs instead of MDs. In a subsequent issue you will see up-to-date reports of the unique programs in Chicago and New Jersey.

We expect these reports to engender others. And we hope that they may give impetus to the big job of insuring an adequate supply of qualified medical candidates for the future.



Medical text from real life

*Maxwell M. Geffen*

Publisher

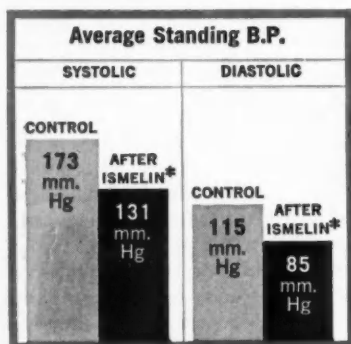


# ISMELIN® reduces high blood pressure to normal

According to reports from more than 100 clinical investigators, Ismelin—in moderate to severe hypertension—reduces blood pressure levels to normal or near-normal in a remarkably high percentage of patients. Following are summaries of typical findings:

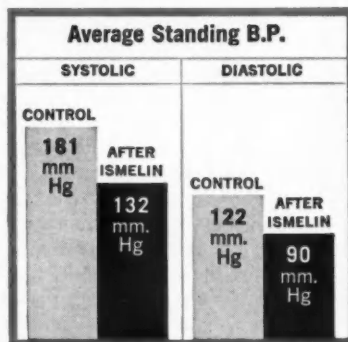
17 of 18 patients (94.4%) treated with Ismelin become normotensive in the erect position. Page and Dustan<sup>1</sup> gave Ismelin orally, alone or in combination with other antihypertensive drugs, to 18 patients daily for 2 to 10 weeks.

**RESULTS:** All 18 patients had reductions in standing blood pressure; 16 had moderate reductions in supine blood pressure as well. In 17 of the 18 cases, blood pressure levels became normal or near-normal in the erect position.



\*During last week of treatment.

In 14 of 15 patients (93.3%) on Ismelin, blood pressure reduced to normal or near-normal levels in the standing position. Ismelin was administered orally by Frohlich and Freis<sup>2</sup> for 4 to 9 weeks to 15 male patients selected from the hypertensive clinic.

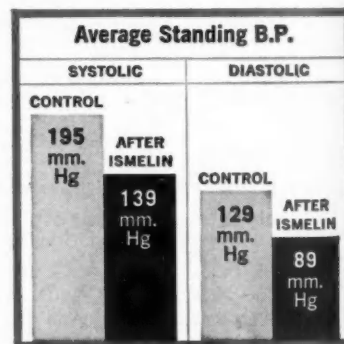


**RESULTS:** Ismelin evoked a potent antihypertensive response in the erect position: the blood pressure of 14 of the 15 patients dropped to normotensive or near-normotensive levels.

"The response [to Ismelin] was

characterized by a potent, orthostatic, antihypertensive effect similar to that seen with the ganglionic blocking drugs but without the side-effects of parasympathetic blockade."<sup>2</sup>

In 15 of 18 subjects (83.3%), guanethidine [Ismelin] reduced high blood pressure to near-normotensive levels. Guanethidine [Ismelin] was administered orally by Richardson and Wyso<sup>3</sup> to 18 male hospitalized patients with hypertension.



**References:** 1. Page, I. M., and Dustan, H. P.: J.A.M.A. 170:1265 (July 11) 1959. 2. Frohlich, E. D., and Freis, E. D.: M. Ann. District of Columbia 28:419 (Aug.) 1959. 3. Richardson, D. W., and Wyso, E. M.: Virginia M. Month. 86:377 (July) 1959. 4. Brest, A. N., and Moyer, J. H.: J.A.M.A. 172:1041 (March 5) 1960. 5. Page, I. H.: Postgrad. Med. 27:448 (April) 1960. 6. Kirkendall, W. M., Fitz, A. M., Van Hecke, D. C., Wilson, W. R., and Armstrong, M. L.: Paper presented at a Symposium on Guanethidine (Ismelin), The University of Tennessee College of Medicine, Memphis, Tenn., April 22, 1960. 7. Leishman, A. W. D., Matthews, H. L., and Smith, A. J.: Lancet 2:1044 (Dec. 12) 1959. **Additional References:** 8. Brest, A. N., Duarte, C., Glantz, G., and Moyer, J. H.: Current Therap. Res. 2:17 (Jan.) 1960. 9. Maxwell, R. A., Mull, R. P., and Plummer, A. J.: Experientia 15:267 (July 15) 1959. 10. Maxwell, R. A., Plummer, A. J., Schneider, F., Povalski, H., and Daniel, A. L.: J. Pharmacol. & Exper. Therap. 128:22 (Jan.) 1960. 11. Maxwell, R. A., Plummer, A. J., Schneider, F., Povalski, H., and Daniel, A. L.: Pharmacologist 1:68 (Fall) 1959. 12. Sheppard, H., and Zimmerman, J.: Pharmacologist 1:69 (Fall) 1959.

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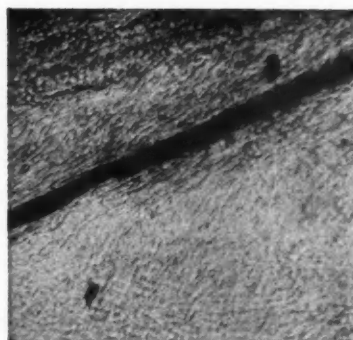
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to near-normal levels in 80 to 90% of cases<sup>1-3</sup>

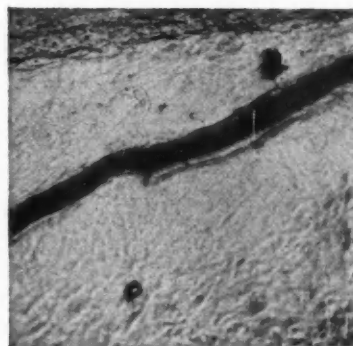
**RESULTS:** "All patients showed definite reduction in blood pressure coincident with administration of [Ismelin]. In most of the subjects [15] standing blood pressure could be maintained near normal levels."<sup>3</sup>

"Side-effects encountered... have indeed been minimal..."<sup>4</sup> Brest and Moyer<sup>4</sup> state: "Side-effects [of Ismelin] encountered to date have indeed been minimal, with mild diarrhea as the only significant complaint even when large daily doses (450 mg.) of the drug are administered. No evidence of toxic action of the drug has been encountered thus far." Page<sup>5</sup> observes: "...Guanethidine [Ismelin] has the advantage [over ganglionic blockers] in that it is much easier to handle and does not produce nearly as much dose sensitivity. Too much of a ganglion-blocking agent will really 'clobber' the patient; with Guanethidine, there is much more leeway." Kirkendall and co-workers<sup>6</sup> report: "Guanethidine has remarkably few side effects. The absence of symptoms of parasympathetic blockade makes its use better tolerated by most patients than conventional ganglion blocking therapy." Leishman and associates<sup>7</sup> conclude: "The capacity of guanethidine to reduce the blood-pressure of hypertensive patients



**Ismelin**  
**Increases Arteriole Caliber**  
Ismelin represents a new principle in the treatment of high blood pressure: It acts at the nerve-arteriole junction where it apparently opposes the release and/or distribution of the pressor substance, norepinephrine. Ismelin is not a ganglionic blocker.

◀ **BEFORE ISMELIN:** Photo shows normal arteriole in rat mesentery. (100x)



◀ **AFTER ISMELIN:** Ismelin has blocked the constricting influence of norepinephrine. Arteriolar caliber has significantly increased, while an adjacent capillary has filled. (100x)

Because it acts at the nerve-arteriole junction—with no demonstrable central or ganglion blocking effect—Ismelin produces a clear-cut antihypertensive response in a high percentage of cases.

without symptoms of parasympathetic blockade is consistent with a mechanism of selective sympathetic-nerve inhibition..."

*For complete information on precautions, dosage, and side effects, write to Medical Service Division, CIBA, Summit, New Jersey.*

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# OUTLOOK

- Tuberculosis-like disease being tracked by VA
- Medical hypnosis course offered for Eastern MDs

**The "Calling Dr. Kildare" paging system** will become a thing of the past if institutions follow the lead of Chicago's University of Illinois Hospitals. They are introducing a pocket short-wave paging system for house staff members. The gadget involves no voice transmission; the hospitals' telephone operators merely set their dials at a designated number. This sets up a buzzing sound that signals the physician to contact the operator via the nearest house phone.

**How to halt bogus arthritis "cures" and "remedies"** will be considered by top health officials at a Washington, D. C. conference scheduled for March, 1961. Called together by Floyd B. Odlum, national chairman of the Arthritis and Rheumatism Foundation, conference delegates will explore ways to protect the 11 million Americans stricken with arthritis who spend more than \$250 million a year on fraudulently advertised products.

**The Veterans Administration is keeping watch** on an odd, tuberculosis-like disease known only as "infection due to unclassified bacteria." In the past year, 710 cases have been reported, with the most in California (95) and New York (87).

**Physicians in the East who want to learn hypnosis** will be able, beginning Dec. 7, to take a course in medical hypnosis to be offered by the University of Pennsylvania Graduate School of Medicine. Dr. Sydney E. Pulver, associate in the department of psychiatry, points out that the 18 weekly sessions will be in line with AMA recommendations that "training be under the jurisdiction of a recognized medical institution."

**The birth control issue is making news** on two fronts. Item: Sweden hopes to get an "open and unbiased" discussion of the issue at next year's meeting of the UN General Assembly. "If nothing happens on the population question," says Sweden's UN delegate, Mrs. Ulla Lindstrom, "then there will be only standing room left for mankind." Item: Professor Heinz von Foerster, a physicist at the University of Illinois has predicted, in *Science*, that without the intervention of birth control measures the world population will have become so great in another 66 years "that our great-great-grandchildren will all be squeezed to death." Prof. Foerster fixes the world's terminal date as Friday, Nov. 13, 2026.

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\*Reports to Department of Clinical Investigation, Parke, Davis & Company, 1958 and 1959.

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# BOOM IN GROUP PRACTICE

**The trend toward specialization may be a major reason so many physicians are gathering together to provide medical services**

There's a new look in American medicine. It's group practice.

A generation ago, togetherness in medicine was a novelty, was even frowned on by organization leaders. But today group practice is as common as the suburban shopping center—and may often be found there.

Proof of this trend, plus a reason for it, is found in two new surveys—one just reported by the U.S. Public Health Service; the other in *Patterns of Disease*, published by Parke, Davis & Company.

In 1946, according to the PHS, there were only 368 groups of MDs practicing together. At latest count there are 1,154. Some 16,000 doctors—ten per cent of all practicing physicians—are in groups, most of them full time.

During the same 14-year period, the number of "specialists" leaped from 40,000 to nearly 100,000. While a generation ago two of every three doctors called themselves "family doctors," today two of every three restrict their practice to a specialty.

Suggesting a link between the two movements, the *Patterns* survey points to the proportion of specialists to GPs in groups as compared to the nation in general. About 30 per cent of all doctors are in general practice. But in groups, specialists outnumber GPs by as much as 95 per

cent (in large groups of 15 men or more). Since surgeons, internists and other specialists seem to be more attracted to groups than GPs, any increase in specialization is likely to create more groups.

Looking to the future, *Patterns* notes that 67 per cent of all third and fourth year medical students have already decided to specialize, 20 per cent are undecided and 13 per cent now expect to enter general medicine. If the trend holds, many of these future specialists will join groups.

Dr. S. David Pomrinse, co-author with Dr. Marcus Goldstein of the PHS report, says one of the telling facts about group practice is its relationship to the total number of active practitioners. In 1946 only three per cent of American doctors were in groups. But today, 6.21 per cent of doctors are working in teams full time, another

0.85 per cent part time, and 2.27 are grouped in single specialty organizations.

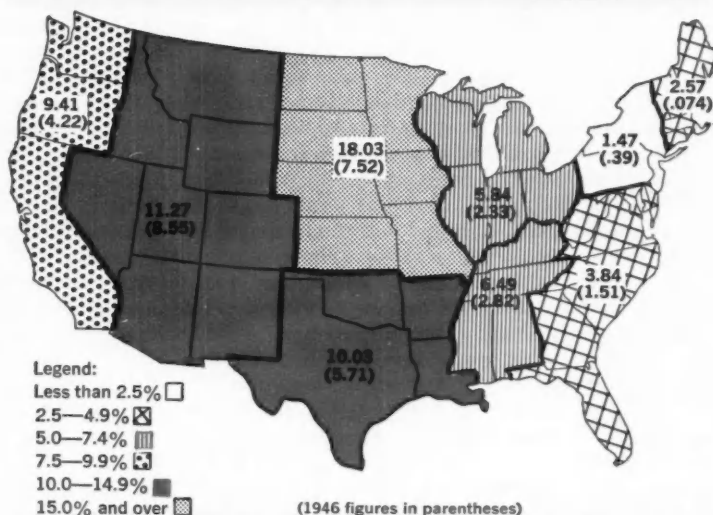
Adds *Patterns*: Although almost two-thirds of specialists are in solo practice, 15 per cent of those surveyed said they are considering "going group." In contrast, only four per cent of men already in groups said they might return to a solo office.

What's the big appeal of group arrangements? *Patterns* asked the group men in their survey of 15,000 specialists just what factors attracted them to the new form of practice, as well as what they like about it. The greatest number said they were attracted by the opportunities for free time and for assistance. Others said they found association with colleagues stimulating. Still others liked the idea of providing complete patient care under one roof. Reduced expenses and the chance to consult were mentioned by a few.

But an obvious allure to practicing in groups is the ability to provide complete patient care on a high level through organized programs and projects. Group practice physicians surveyed by the Public Health Service reported a high percentage of such programs, normally found only in teaching hospitals or other large centers. Even among the smallest groups, 60 per cent offer specific opportunities for staff discussions

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**NATIONWIDE TRENDS IN GROUP PRACTICE 1946-1959**



**RISE** in proportion of group members to private physicians varies regionally.

## BOOM CONTINUED

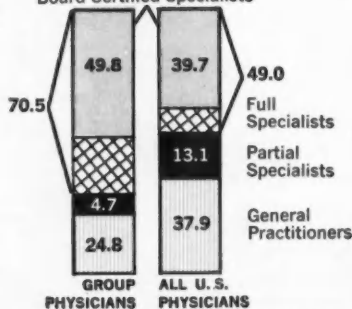
and consultation. Among larger groups, 90 per cent have such projects, and many of these also teach students, interns and residents.

The Public Health Service also was curious about what kind of job the group practices are doing. Like other doctors, they're mostly devoted to general medical care. Less than two per cent of all groups are providing only consultation, referral service or diagnosis. And most of these are among the very large groups (more than 15 members). One in ten groups has a program for older patients.

The trend is taking some local and regional turns, too (see chart). Isolated rural areas are still the province of the "vanishing" GP; the proportion of rural group practices is now only slightly higher than in 1946. "Isolated semi-rural" areas have seen a ten per cent decline in group practices, while metropolitan counties and the suburbs around them are becoming even more the real heart of "group country." Almost 60 per cent of all group offices are located in and around cities.

On a wider scale, the proportion of physicians in group practice is greatest in the West North Central states; 18 per cent of MDs in Iowa, Kansas and Minnesota are working in groups. New York, New Jersey and Pennsylvania have the smallest proportion (1.47 per cent). From the standpoint of growth, the South Atlantic states are turning to group practice at a faster clip than elsewhere. They have shown a 343 per cent increase in the last decade and a half. But even in the most reluctant area, New England, where groups have increased by only 22 per cent, Dr. Pomrinse calls the growth of group practice "striking." ■

**DISTRIBUTION OF SPECIALISTS IN GROUPS AND PRIVATE PRACTICE**  
Board Certified Specialists



**SPECIALISTS** dominate group practices.

## HOW NEW TAX REGULATIONS AFFECT

The Internal Revenue Service has just announced adoption of its long-awaited regulations that will have far-reaching effects on doctors banded together in clinics or similar group practices.

Specifically, the new rules define which types of unincorporated business groups can be considered taxable as corporations even though they do not utilize the corporate structure of stockholders and management.

The latest regulations also state once and for all whether members of such medical groups can exclude from income tax returns any earnings set aside for qualified deferred pension and profit-sharing plans.

The effect of these regulations cannot be underestimated.

Doctors had hoped that the regulations would have been favorable, thus allowing further organization of group practice clinics and hospitals. For, although most state laws forbid the "corporate" practice of medicine — and most groups are therefore actually partnerships — the IRS could well have allowed MD-groups to be taxed like corporations. In such a set up, the amount contributed by the "corporation" to a pension plan would be deductible; so would the amount contributed by doctors as "employees" of a medical group practice.

But the new rules are unfavorable; a major potential tax advantage is lost for doctors. They won't be able to deduct pension and profit-sharing contributions.

A draft of the rules circulated for comment produced anguished protests from some professional groups. A major dilemma is how doctors organized as partnerships can qualify under a set of regulations which would put them in violation of state laws governing corporations.

To help clarify some of the questions which the new IRS regulations pose for physicians, MEDICAL WORLD NEWS asked Internal Revenue Service officials and other tax experts their opinion on interpretation of the following significant points:

### Why are such regulations needed?

Basically, the government wants to close a loophole which has permitted some associations (not of doctors) to

avoid high corporate income taxes while enjoying all the legal advantages of being a corporation. For example, many real estate syndicates which function as limited partnerships may find themselves considered as corporations and taxed as such.

### Then wouldn't doctors in group practice be better off if they were not treated as corporations?

No, they would not. The proceeds remaining after overhead, in groups, are paid out as salaries or fees to the member doctors, and the association may actually show little or no taxable profit. Therefore, the corporation tax would not be an important consideration.

### Why can't partners set aside part of their earnings for deferred pension plans and deduct this amount on their tax returns?

Because only employees of a business are eligible for such treatment. Self-employed individuals or owners of a business don't have this privilege under present law. However, if the partnership were considered as a corporation for tax purposes, then technically doctors could qualify as "employees." This is the major issue.

### Do the present regulations make it possible for doctors' partnerships to be regarded as corporations for this purpose?

No, they do not.

### Why not?

Simply because the new regulations set down four criteria for partnerships that want to be treated as corporations. Doctors' partnerships can't meet these criteria without violating state laws.

### What will be the four conditions partnerships must meet to get "corporation" treatment?

1. The new IRS regulations state the partnership must have continuity of life. In other words, that it remain in existence even though one member pulls out or dies. Usually under state law, the death or resignation of a partner terminates the partnership and requires dissolution, unless the partnership agreement expressly provides

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## CONFLICT GROUPS

that it be otherwise.

2. The partnership must have a centralized management—such as a president or a chairman of the board. He must have full power to administer its operations the same way a corporation official runs his business. Even if a doctor or a committee should be given management authority, the public—under the partnership laws—could deal with any member on an equal basis.

3. There must be "transferability of interest." In other words, any member of the partnership must be able to sell his share without permission from the other members, just as shares in a corporation are traded. There's no objection if the partners agree in advance to give each other the right of first refusal in the event one desires to sell out.

4. Members of the partnership must not be personally liable for debts or other claims against the business—just as stockholders in a corporation are not personally liable for its losses. But the Uniform Partnership Act, under which most group practices are established, holds each partner responsible for the partnership's liabilities. Again, it's a matter of how the state law is interpreted.

### Can employees of medical groups possibly qualify for pension plans even though the partners cannot?

Yes, but approval must first be obtained from the local District Director of Internal Revenue before the employee's contribution to the fund can be excluded from the income tax. Partnership contributions can also be deducted as long as they are for employees—not for partners.

### Since the final regulations do exclude practically all doctors from deducting pension plan payments, is Congress likely to change the situation?

Yes. The Keogh bill, not acted upon in the last session, will be revived in the upcoming session of Congress. Prospects for its passage are considered excellent. Once approved, any self-employed person (including doctors) will be able to set aside part of his income for a pension plan, and he won't have to pay income taxes on that portion of his income. ■

**DUODENAL ULCER** in cool light of fiberscope is a dark spot in inflamed (gray) area.

## INSIDE LOOK AT A DUODENAL ULCER

**New flexible fiberscope allows a direct view of the small intestine, sheds light on hidden pathology, speeds diagnosis**

**F**or the first time human duodenal ulcers can be seen directly without resorting to surgery.

The feat is accomplished with a new device that can loop into and light up the duodenal bulb. Because of its unique optical system—consisting of thousands of glass fibers—it can literally see around corners and, unlike the traditional gastroscope, is completely flexible.

As a result, an almost immediate diagnosis of ulcers and other duodenal pathology can now be made directly, conveniently and painlessly, according to its developer, Dr. Basil I. Hirschowitz, head of gastroenterology at the University of Alabama Medical School, Birmingham.

Eighty patients have already been examined with the *Hirschowitz Gastro-Duodenal Fiberscope*, and diagnoses of peptic ulcer, duodenitis and gastric cancer were made—in many cases without x-ray—he told the an-

nual meeting of the Southern Medical Association in St. Louis. He also reported seeing bile flow into the duodenal bulb.

"The rigidity of the conventional gastroscope prevents it from exploring the intestine because it cannot pass beyond the pyloric sphincter," the University of Alabama investigator explained. But his flexible fiberscope can pass through the GI tract as quickly and as easily as a gastrectomy tube.

Moreover, in gastroenterostomy patients, the fiberscope can slip through the surgical opening in the stomach wall and illuminate the jejunum. In one case, Dr. Hirschowitz said, he spotted jejunitis in a patient who complained of pain after operation but in whom x-ray findings were negative.

He showed his audience of gastroenterologists the first photographs and motion pictures ever taken of the normal and severely ulcerated duodenal bulb in action.

In the movies, the normal wall of the duodenal bulb appears light red-orange and has fewer longitudinal folds than the pylorus. Peristalsis is rapid.

Significantly, the wave of circular

CONTINUED





**EYEPiece** at top of 99 cm long fibroscope has movable lever to allow adjustments in the focus.



**TIP**, five cm long, fits inside duodenal bulb and lights it.

#### INSIDE LOOK CONTINUED

contractions terminates at the end of the bulb and closes the duodenum completely. After a few seconds the end of the bulb relaxes, only to contract again in an estimated 20 seconds. Dr. Hirschowitz interprets this closure, and the way the wall forms the closure, as anatomical evidence of an intraduodenal sphincter muscle, marking the boundary between the bulb and the rest of the duodenum.

This muscle is not only more rigid than the pyloric sphincter, he says, but it prevents the fibroscope from passing further into the small intestine.

In the severely ulcerated bulb, however, the wall fails to make a complete closure. Peristaltically, its rhythm is off-beat and the contractions at the end of the bulb are "deformed," as Dr. Hirschowitz terms it. The longitudinal folds are out of place and the entire surface has irregular contours.

#### Three Types of Ulcers Shown

The still color slides also demonstrate evidence of duodenal pathology, including blood clots. Based on what he has seen, Dr. Hirschowitz tentatively broadens classification of peptic ulcer into three categories: the usual acute and chronic forms, and a third type which he believes has never been observed before.

The acute type appears as a small shallow ulcer containing a clot. The chronic ulcer is a crater with a conspicuous rim of swollen and inflamed

tissue. The third type is a large shallow ulcer with a bumpy, irregular appearance. The area does not have a sharp outline.

Dr. Hirschowitz has named this type an "indolent" ulcer, adding: "It does not look as though it will heal." As more experience is gained with the fibroscope, he points out, the three categories will be refined into sharper diagnostic guides.

To obtain the first motion and still pictures of the duodenum, he used only the illumination supplied by a special six-volt light source built into the fibroscope. Picture-taking with a rigid gastroscope is usually impossible unless extra lighting is placed inside the patient, he pointed out. And these lights are hot.

In addition, the method of preparing the patient for the gastroscope is clumsy. It does not fit all patients and, despite anesthesia, often traumatizes those in whom it does fit.

With the flexible fibroscope, however, no patient has required more than a simple anesthetic throat spray to inhibit the gag reflex, according to Dr. Hirschowitz. If the patient can sit up, he leans to the right and, in a matter of seconds, lets as much of the fibroscope pass as is necessary. Once it is in place he sits up comfortably with his head in a normal position while the physician looks through the ocular and adjusts the focus.

To take films or photographs, the physician just attaches an ordinary

motion picture or reflex camera to the ocular, Dr. Hirschowitz said. A special advantage is that prone patients may be examined with the fibroscope. Since it is flexible, these patients do not have to sit up to have their upper GI tract explored visually.

"The conventional gastroscope is thus obsolete," Dr. Hirschowitz declared. The reason may be found in its conventional optical system. It transmits light from the objective inside the patient to the ocular outside, through a system of about 50 lenses. Thus the construction of the usual gastroscope is necessarily rigid.

In contrast, the fibroscope uses specially treated glass fibers—similar to the kind used in house curtains—for transmitting light from the objective to the ocular. Since the fibers are flexible, so is the fibroscope.

It also transmits 2½ times more light than the gastroscope. Most important, the 150,000 glass fibers in the fibroscope, each .0006 inches in diameter, transmit light—and hence the image—along their entire length, whether they are straight, curled, curved, spiraled or loosely knotted. The fibroscope, manufactured by American Cystoscope Makers, Inc., represents a practical application of the science of "fiber optics."

#### Challenges Concept

In the discussion period after his report, the concept of the intraduodenal sphincter muscle as an anatomic entity was challenged by Dr. Nicholas C. Hightower, director of clinical research, Scott and White Clinic, Temple, Texas, and winner of the Seale Harris award of the Southern Medical Association for outstanding contributions to internal medicine. He claimed that the closure at the end of the duodenal bulb is a physiological sphincter, not an anatomic one. The closure, he said, is a typical physiological device of the intestine to build up pressure behind it. When the muscle relaxes and the bulb opens, the pressure is free to push the contents further into the intestine.

Despite the difference in interpretation, Dr. Hightower emphasized that the fibroscope is a major contribution. More than a dozen gastroenterologists in the audience demonstrated their agreement. Before the St. Louis meeting ended, they placed orders for fiberoscopes. Cost: \$1,650 each. ■

# ELECTRIC EELS SPARK DISCOVERY

**'Batteries' from these animals have helped Columbia investigators prove that acetylcholine plays an even more central role in nerve transmission than previously thought**

A team of Columbia University physicians and scientists has reported a series of basic discoveries on nerve impulse transmission that may sharply revise concepts in anesthesiology and neurological diseases.

Specifically, the results of their experiments show that:

▶ Acetylcholine is inseparably associated with all bioelectric events in the nerves, rather than at the synapses only, as has been long believed.

▶ A specific receptor protein molecule reacts with acetylcholine to permit ion circulation in the nerve.

▶ Local anesthetics act by displacing acetylcholine on the receptor protein.

Veteran biochemist David Nachmansohn, professor in the department of neurology at Columbia University's College of Physicians and Surgeons, had suggested, as far back as 1937, the importance of the role played by acetylcholine. Now, he believes, findings by his associates unequivocally confirm his theory.

Over a century ago French scientist Claude Bernard found that curare blocked transmission of impulses from nerve to muscle, and theorized that nerve endings have different chemical properties than the rest of the nerve. In 1933, British neurophysiologist Sir Henry Dale proposed that acetyl-

choline was responsible for conducting impulses across the synapse and explained that curare blocks impulses by interfering with acetylcholine.

Sir Henry shared a Nobel Prize for this discovery, and since then it has been generally accepted that acetylcholine acts only at the nerve's end.

In 1937, however, Dr. Nachmansohn reported "amazing amounts" of cholinesterase (the enzyme that breaks up acetylcholine) in electroplax cells, the bioelectric generators of electric eels. He theorized that acetylcholine was vitally important to all nervous transmissions. And he explained that curare did not act on acetylcholine in the axon because it is lipid-insoluble and cannot penetrate the lipid barrier surrounding the fiber.

This hypothesis has now been verified by Dr. Wolf-Dietrich Dettbarn, a young research associate in neurology working under Dr. Nachmansohn. Dr. Dettbarn first set himself to the painstaking task of isolating a single nerve fiber from a frog's sciatic nerve. (He can now average one nerve fiber a day, "botching up" a portion of half a dozen frog legs in the process.) Stimulating a single fiber with an electric current and recording electrical activity on an oscilloscope, he found that curare along the axon does not penetrate the

coating of lipid around the nerve fiber.

But when curare solution is placed on a Ranvier node, where the structural barrier is very thin, nerve impulses are blocked.

The second piece of evidence came from Drs. Philip Rosenberg and Seymour Ehrenpreis, also of the Physicians and Surgeons staff, who applied cobra venom to nerve fibers of the squid (which possesses unusually large, single fibers). Cobra venom, a potent enzyme cocktail, breaks the fatty barrier along the axon. When curare is applied to these "pretreated" fibers, electrical activity is blocked.

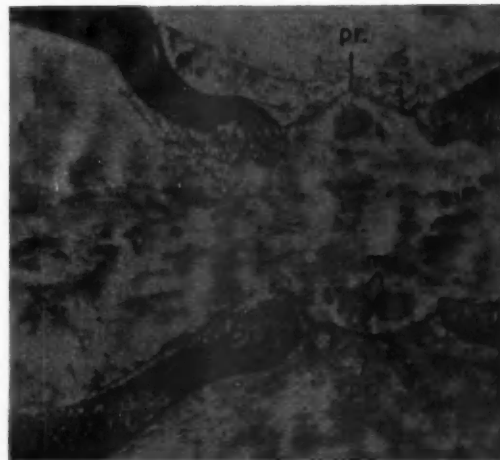
Finally Dr. Ehrenpreis, an assistant professor of neurology, isolated the specific protein that combines with acetylcholine to permit potassium-sodium ion exchanges. From Amazonian eels (flown in by the Air Force and kept at the Coney Island Aquarium where they entertain the public by lighting up electric bulbs) Dr. Ehrenpreis extracted the electroplax cells, which presumably would contain the protein in large proportions. The cells were dissolved, and curare added to the solution on the assumption that it would combine with the protein because it was similar in structure to acetylcholine. Indeed, curare hydroxyl groups released hydrogen bonds to the receptor protein, and seconds after the mixing a cloudy precipitate formed.

The precipitate was collected, and the receptor protein separated from

CONTINUED



**COLUMBIA TEAM** includes Dr. Nachmansohn (c.), who evolved new nerve theory, and Drs. Dettbarn (l.) and Ehrenpreis (r.), who furnished confirmation.



**FLAW** in lipid insulation at Ranvier node permits blockage of nerve axon by curare.

## ELECTRIC EELS CONTINUED

the curare. The protein, says Dr. Nachmansohn, proved to be of average size, as proteins go (molecular weight ca. 100,000). It is found in very small amounts. (It takes some 20 eels and hundreds of electroplex cells to collect 100 milligrams.) Dr. Nachmansohn believes the protein exists in all nerves but so far it has been found only in the eel.

Fitting together puzzle pieces gathered in the past 20 years, Dr. Nachmansohn—an MD by training and biochemist by long-time avocation—describes this sequence of biochemical and physical events in the nerves:

The acetylcholine molecule, roughly shaped like a key, rests on a "storage" protein from which it is released by oncoming electrical activity. As it is set free, it snuggles up to the receptor protein, creating a "folding" that opens the barrier to sodium ion movement. The current passes, disturbing the equilibrium, and the acetylcholine molecule is knocked off the receptor protein. Thirty or 40 millionths of a second later, the acetylcholine is destroyed by cholinesterase, one of the fastest-acting enzymes known.

### Propagation of an Impulse

Using radioisotopes, Dr. Nachmansohn was even able to make a quantitative estimate of acetylcholine efficiency: one molecule of acetylcholine, he says, permits the passage of 1,000 sodium ions through the nerve membrane. It is this mechanism of ion exchange across the membrane that propagates electrical impulses.

The Columbia team can now explain the specific chemical reaction by which local anesthetics (procaine, tetracaine, dibucaine) produce their effects. These anesthetics, says Dr. Nachmansohn, are similar to acetylcholine, and their molecule is also roughly key-shaped. They act simply by taking acetylcholine's place on the receptor protein, thus inhibiting it. Their effectiveness directly parallels their affinity to the protein—electrical activity and sensations return only when the anesthetic is broken up or diffused.

These findings, Dr. Nachmansohn believes, are likely to lead to a better understanding of some aspects of neurological diseases, and to permit the development and testing of better anesthetics and neurotropic agents. ■

# CHROMOSOME CHANGE SPOTTED IN LEUKEMIA

**Aberrant autosome is first to be consistently associated with one type of malignancy**

A consistent and specific chromosome abnormality has been reported in the cells of patients with one type of leukemia. The discovery may be the first solid evidence to support the belief that chromosome alterations are a key to malignancy.

The finding was described by Dr. Peter C. Nowell, University of Pennsylvania pathologist, to the National Academy of Sciences autumn meeting in Philadelphia. He and David A. Hungerford, a University of Pennsylvania graduate student working at the Institute for Cancer Research in Philadelphia, have found the same minute aberrant chromosome in leukocytes of seven patients with chronic granulocytic leukemia.

Several isolated chromosome abnormalities in leukemia have recently been reported, Dr. Nowell pointed out, but this study is the first in which a strikingly similar alteration—and no other—has been found in a series of patients with the same disease.

The cases varied from asymptomatic and untreated to extensively treated ones in terminal myeloblastic crisis. Most of them had some cells with a normal chromosome complement, which suggests "that the minute chromosome is not part of the normal constitution of these individuals but is limited to the neoplastic cells." Fur-

thermore, studies of patients with the acute childhood or acute granulocytic form of leukemia produced no such abnormal findings.

Thus, the aberration is probably a specific characteristic of chronic granulocytic leukemia. It may be "the cause of the malignant nature of these cells," according to Dr. Nowell.

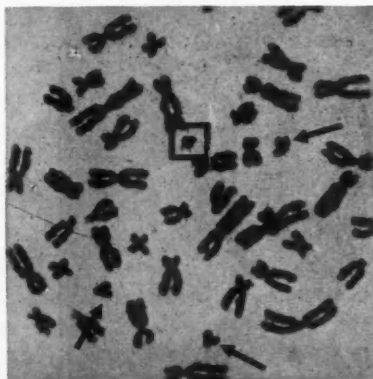
The findings do not eliminate the possibility that there is also a chromosome change in acute leukemia. Further studies may show one. But it does appear to indicate that there is a fundamental difference in these diseases, and that they may have different etiologies.

The team's discovery was made possible by a recent improvement over the old squash technique. The new technique, developed by Dr. Paul Moorhead of the Wistar Institute in Philadelphia, working with Dr. Nowell and Hungerford, allows detailed study of the morphology of individual chromosomes in leukocytes for the first time.

Leukocytes are separated from a small sample of the patient's blood, planted in culture bottles and later arrested at the peak of mitotic activity. They are treated to make them swell and, as they dry, they burst—spreading out the chromosomes in a uniform plane. Photographic enlargements (see below) show the individual chromosomes in clear detail.

Further improvements in the technique must come before the exact nature of the alteration can be understood, Dr. Nowell stated. "But what apparently has happened is that about half of the longer arm on chromosome 21 or 22 is missing.

"Techniques similar to ours," he added, "may show that other forms of neoplasia involve specific chromosome aberrations. We are now looking for them in other types of leukemia. We can now point to a specific abnormality in a chromosome in chronic granulocytic leukemia but we don't know yet which biochemical processes this portion of the chromosome controls. The biochemical nature of the alteration that apparently results in leukemia is still unknown." ■



LEUKEMIC leukocyte carries abnormal (square) and normal autosomes (arrows).



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A NEW THERAPEUTIC ENTITY FOR DIARRHEA

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SELECTIVELY LOWERS PROPULSIVE MOTILITY

LOMOTIL represents a major advance over the opium derivatives in controlling the propulsive hypermotility occurring in diarrhea.

Precise quantitative pharmacologic studies demonstrate that Lomotil controls intestinal propulsion in approximately  $\frac{1}{11}$  the dosage of morphine and  $\frac{1}{20}$  the dosage of atropine and that therapeutic doses of Lomotil produce few or none of the diffuse untoward effects of these agents.

Clinical experience in 1,314 patients amply supports these findings. Even in such a severe test of antidiarrheal effectiveness as the colonic hyperactivity in patients with colectomy, Lomotil is effective in significantly slowing the fecal stream.

Whenever a paregoric-like action is indicated, Lomotil now offers positive antidiarrheal control . . . with safety and greater

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**PRECAUTION:** While it is necessary to classify Lomotil as a narcotic, no instance of addiction has been encountered in patients taking therapeutic doses. The abuse liability of Lomotil is comparable with that of codeine. Patients have taken therapeutic doses of Lomotil daily for as long as 300 days without showing withdrawal symptoms, even when challenged with nalorphine.

Recommended dosages should not be exceeded.

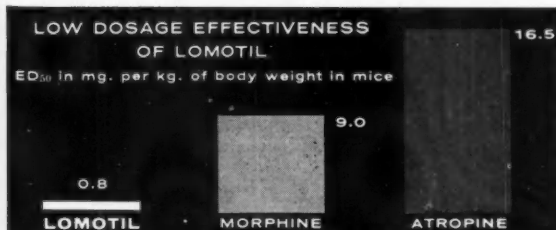
**DOSAGE:** The recommended initial dosage for adults is two tablets (5 mg.) three or four times daily, reduced to meet the requirements of each patient as soon as the diarrhea is controlled. Maintenance dosage may be as low as two tablets daily. Lomotil, brand of diphenoxylate hydrochloride with atropine sulfate, is supplied as unscored, uncoated white tablets of 2.5 mg., each containing 0.025 mg. ( $\frac{1}{400}$  gr.) of atropine sulfate to discourage deliberate overdosage.

Subject to Federal Narcotic Law.

Descriptive literature and directions for use available in Physicians' New Product Brochure No. 81 from

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**EFFICACY AND SAFETY** of Lomotil are indicated by its low median effective dose. As measured by inhibition of charcoal propulsion in mice, Lomotil was effective in about  $\frac{1}{11}$  the dosage of morphine hydrochloride and in about  $\frac{1}{20}$  the dosage of atropine sulfate.

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WORLD NEWS



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*Symbol of service in medicine*

# AMERICA'S COSTLIEST DEGREE

The price of an MD diploma—twice that of a PhD—challenges educators to seek ways to make medicine fiscally competitive

The country's leading medical educators have been challenged to come up with a plan which will help ease the medical student's financial burden.

At the Association of American Medical Colleges convention in Hollywood Beach, Fla., some 900 delegates listened to a blunt warning from Dr. J. Frank Whiting of its division of operational studies: "Out of our collective thinking must come an official statement of policy. Private foundations, industry and government have all asked that we state our position."

The educators were already familiar with some of the reasons behind Dr. Whiting's plea. They knew, for example, that the AAMC has reported the average cost of a four-year medical education to be \$11,644 or \$2,911 a year. And they knew that most of this money now comes from the student's own family, that this income, along with his own earning power, provides more than 80 per cent of all financial resources available to the future doctor (*Late News*, MWN, July 1).

But at the Florida convention the

delegates were given some new reasons for concern. Combining the results of his own investigations with a National Opinion Research Center study, Dr. Whiting showed them that the MD has become far and away the costliest degree in America. "Twice as expensive as the PhD," he said, "because the PhD candidate has four times the dollar help available to him if he wants to go after it."

Here are the findings revealed in Dr. Whiting's AAMC report:

► Average cost to the medical student for his tuition, fees, books, etc., is about \$1,000 a year or \$4,000 for four years of medical education. Direct educational costs to the graduate student, on the other hand, average only about \$450 a year or \$1,800 for a four-year program of PhD training.

► Half of all medical students and 61 per cent of all PhD candidates receive stipend income from fellowships, scholarships and the like. But the medical student averages no more than \$500 a year in stipend income while the graduate student is paid roughly \$2,000 a year. The stipend-aided graduate student, in other words, is paid *annually* what the stipend-aided medical student is paid during the entire four years of his medical training.

► Eighty-four per cent of all medical students get financial help from their

families while no more than 22 per cent of all PhD students accept money from home. And this in spite of the fact that both medical students and graduate students usually come from upper-middle or high income families. Most graduate students say they don't need money from home. And the Whiting report says that the fact most of them can get \$2,000 a year in stipend money explains *why* they don't need it.

► Forty-seven per cent of all medical students use loans as a source of income while only nine per cent of all graduate students borrow money to meet educational expenses. Loans to medical students average about \$3,900, loans to graduate students about \$2,500. Thus, more than five times as



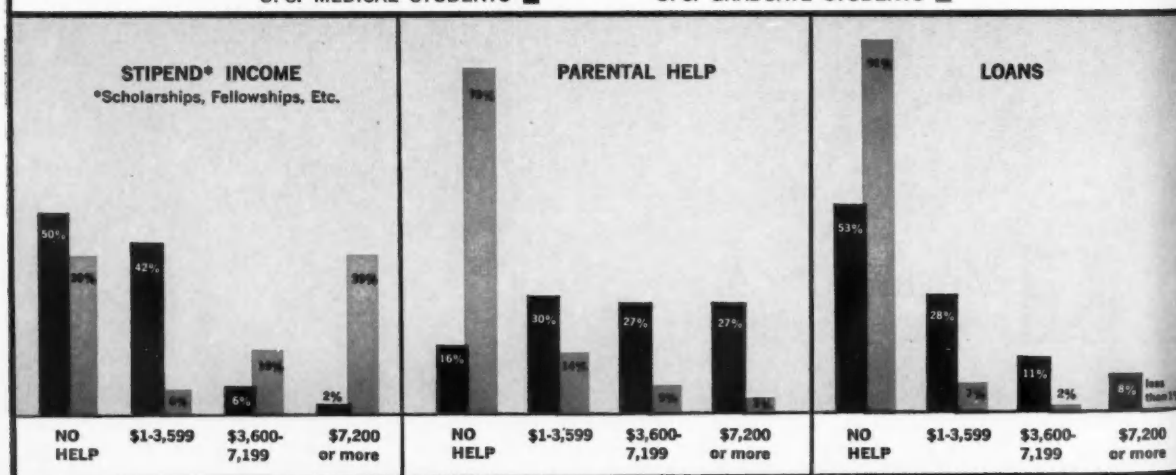
ANALYST WHITING urges college group to state policy on student financing.

## FINANCIAL HELP TO MEDICAL STUDENTS VS GRADUATE STUDENTS

(Four Year Totals)

U. S. MEDICAL STUDENTS ■

U. S. GRADUATE STUDENTS ■



many medical students as graduate students borrow money to defray expenses. And the average individual debt of the medical student is 1½ times that of the graduate student.

"In view of the facts," says the report, "it is not surprising that there has been a decline in the number of applications made to medical schools. Indeed, it's surprising that the rate of decline hasn't been greater."

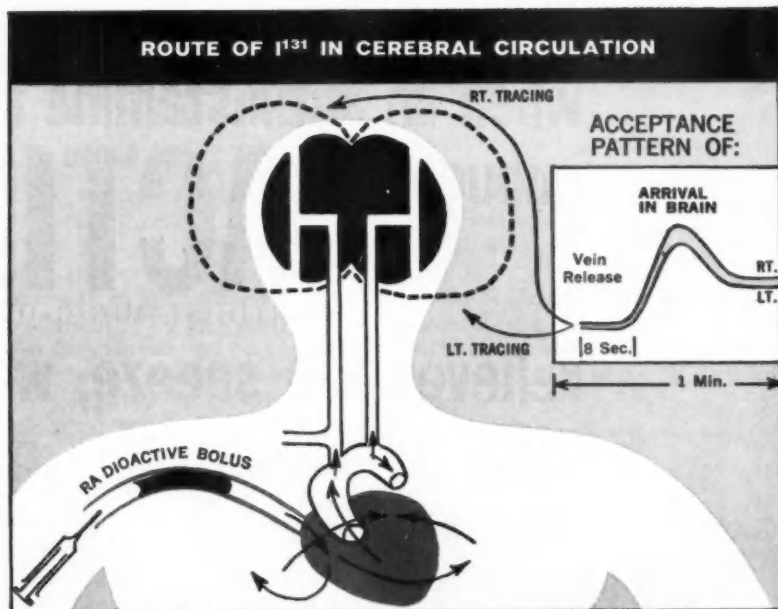
Said Dr. Whiting: "Ever since 1957, when international events brought a boost in the stipends paid to graduate students, medicine has not been in a position to compete. And it isn't now."

But the AAMC leadership evidently believes medicine can improve its competitive position. In an interview with MEDICAL WORLD NEWS, Dr. Whiting outlined his organization's thinking:

"We hope our members will approve a program aimed at getting rid of the 80-20 ratio that now dominates student financing. Instead of the present system that allows 80 per cent of the money to come from the student's family and 20 per cent from outside sources, we want the AAMC to back a plan to help split fiscal responsibility three ways; one-third paid out of family resources, one-third paid as loans and one-third paid as non-refundable stipends."

In estimating the cost of medical student financing at more than \$17 million a year, Dr. Whiting emphasized that nothing less than a "total national effort" will spell success. "Some of the money will continue to come from the students' families, of course. The rest will come from industry, from foundations—and from government." But Dr. Whiting was careful to underscore AAMC conviction that most of the help will come from private sectors of the economy.

"We assume that the legislation introduced into the 86th Congress (aimed at giving Federal grants and loans to medical students) will be introduced again into the 87th. And particularly in view of the Kennedy victory, we've got to assume that such legislation stands a pretty good chance of becoming law. But our chief concern remains the private donor—even the donor of very modest means. He's the only one who can offer the kind of no-strings-attached assistance that will keep medicine free." ■



SPEED of bolus movement through brain is timed by detectors near the patient's head.

## ISOTOPES CLOCK FLOW OF BLOOD TO BRAIN

**Simple new test substitutes intravenous for more risky intracarotid injections in diagnosing cerebrovascular lesions**

**V**A scientists have developed a relatively simple radioisotopic test that will reveal cerebral blood flow patterns without running the risk of tapping blood vessels of the neck.

The technique, considered "extremely safe, painless and repeatable," is expected to be valuable in the evaluation of a variety of cerebral vascular conditions. Among other things, it should reduce the need for using angiography.

Dr. William H. Oldendorf, of the VA's Wadsworth General Hospital in Los Angeles, reported on the method at the 13th annual Conference on Electrical Techniques in Medicine and Biology in Washington, D. C.

The main drawback of present methods for measuring cerebral blood flow is that they generally involve intracarotid injections of dyes and radioisotopes. This complex and potentially

risky procedure has tended to prevent the wide clinical use of these substances.

The technique developed by Dr. Oldendorf and his group involves routine intravenous injection of I<sup>131</sup>-labelled hippuric acid while an arm cuff holds the arterial pressure 10 mm below the diastolic value for at least one minute.

### Plotting the Bolus

The cuff is then released and the radioactive bolus is plotted, as it enters the brain, by two collimated detectors located over the head. They record the rate of blood flow into each hemisphere.

So far, the group has run curves on 64 controls and 20 patients with such conditions as carotid artery occlusions, middle cerebral occlusions, arterial venous malformations and a subdural hematoma.

In some of the controls the test was verified by deliberately compressing a common carotid artery for brief periods and noting the reduced flow. One patient, with verified complete occlusion

CONTINUED

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Combining 'Actidil' (an antihistamine of unusually high potency) with 'Sudafed' (an orally effective nasal decongestant), 'ACTIFED' is "effective in a significant percentage of cases of seasonal and nonseasonal allergic rhinitis failing to respond to antihistamines alone."<sup>1</sup>

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should be used with caution in hypertensives;  
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siness, appropriate precautions should be  
observed.)

1. Feinberg, S. M., Feinberg, A. R., and Fisherman, E. W.:  
J. Indiana M. A. 52:2137 (Dec.) 1959.

\*Adapted from authors' table.



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## ISOTOPES CONTINUED

sion of one internal carotid, proved asymptomatic and showed no loss of cerebral blood flow.

The implication was that collateral circulation compensated for the blocked carotid. Dr. Oldendorf said that recognizing this sort of thing is important, for example, in evaluating a stroke victim for surgery. If the test shows that there is adequate post-stroke flow in the brain, surgery to repair an occluded carotid would be too late to restore function.

It is doubtful that the new technique, at least in its present stage of development, will replace the cerebral angiogram in many procedures. But it is expected to be an important supplement since it can be done more easily and can often be used to evaluate surgery, drug therapy and progress in conditions like hypertension.

Another highlight was a report that the tell-tale signals of spinning electrons may give physicians a long-sought tool for simply and accurately differentiating between obstructive and non-obstructive jaundice. This information can be crucial in making a decision on whether or not surgery is indicated.

### Magnetic—Like the Earth

Dr. Jessie L. Ternberg of Washington University, St. Louis, reported on the technique. Dr. Ternberg emphasized that the work is very preliminary. But if it holds up, it would be important clinically because there is now no satisfactory test for differentiating between the two conditions. Although the equipment is rather elaborate, most major research groups have it. And Dr. Ternberg said that the tests could be run easily and rapidly (it takes only five minutes) on a regional basis.

The technique is based on the detection of free radicals in normal and abnormal liver tissue. Free radicals are molecules containing one or more unpaired electrons, which appear to be decisive intermediates in vital metabolic processes such as enzymatic oxidation. As such, they play a crucial, if little understood, role in fundamental physiology, according to the St. Louis investigator.

Because the unpaired electrons set up their own distinctive electro-magnetic fields, much like the earth, their

signal can be detected electronically. The technique is known as electron spin resonance spectrometry.

The Washington University group has shown that the free radical concentration in different tissues, and in normal and abnormal conditions, can differ. This is particularly striking in the case of liver tissue.

Using biopsy specimens from 30 controls, they established a baseline wave pattern for the free radical concentrations. Then they analyzed samples from six cases of confirmed jaundice (common duct or biliary cirrhosis) and compared the results with two

cases of non-obstructive jaundice.

The free radical activity in the obstructive cases was about three times greater than in the controls; in the non-obstructive group it was either about the same as, or slightly less than, the controls. Since the obstructive jaundice could be confirmed or ruled out in a known case of the disease, the non-obstructive type could be pinpointed.

The Washington University investigators are also analyzing other tissues, such as heart muscle, but these studies have not yet developed to the point of potential clinical application. ■

## 'NEW LOOK' IN MEASURING CEREBRAL BLOOD PRESSURE



GOGGLES containing tiny transducers relay ophthalmic pulse to mercury manometer.

With a weird-looking pair of goggles, physicians can now determine cerebral blood pressures directly without having to deduce them from brachial artery readings.

The goggles form an airtight compartment over the patient's eyes. Air is pumped in until a signal from tiny ionization transducers, which relay pressure changes to a mercury manometer, indicates the pulse in the ophthalmic arteries has been obliterated. This gives the systolic pressure. The diastolic value is noted as the pressure is allowed to fall.

The instrument, called an "ophthalmic artery pulsensar," was developed by Dr. Melvin Thorner of the

University of Pennsylvania, who described it at the annual Conference on Electronics in Medicine and Biology in Washington, D. C.

He believes it will prove valuable in diagnosis and evaluation of treatment in hypertension and other circulatory diseases of the brain. Brachial pressures give only a rough—and sometimes erroneous—index of cerebral pressures. And previous methods for detecting pulse patterns in the ophthalmic arteries have been both cumbersome and unreliable.

The pulsensar kit, costing about \$500, is being marketed by the Decker Corp., of Bala-Cynwyd, Pa. It is expected to be available by January.

## "..extraordinarily effective diuretic..."<sup>1</sup>

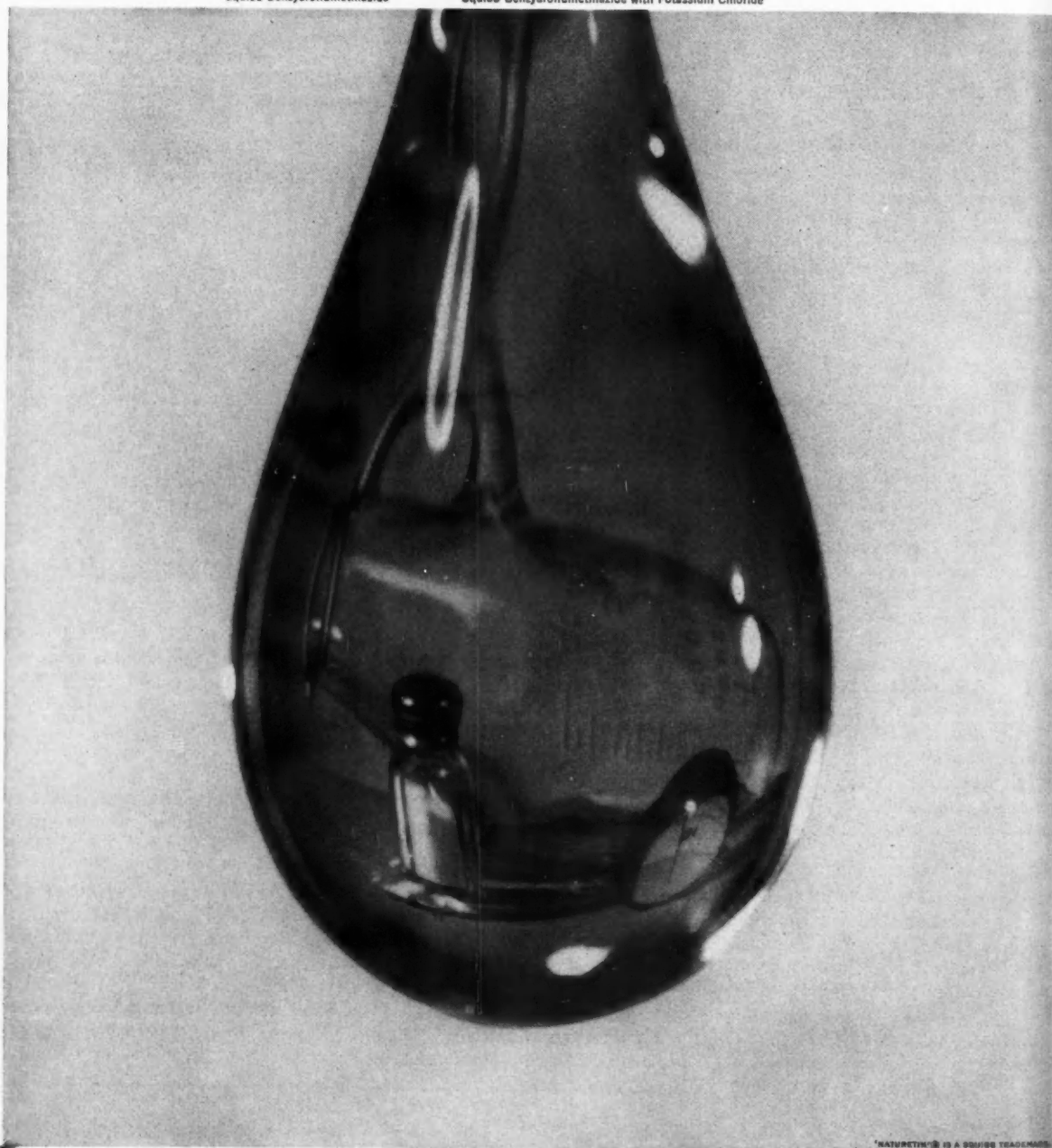
Efficacy and expanding clinical use are making Naturetin the diuretic of choice in edema and hypertension. It maintains a favorable urinary sodium-potassium excretion ratio, retains a balanced electrolyte pattern, and causes a relatively small increase in the urinary pH.<sup>2</sup> More potent than other diuretics, Naturetin usually provides 18-hour diuretic action with just a single 5 mg. tablet per day — economical, once-a-day dosage for the patient. Naturetin  $\bar{c}$  K — for added protection in those special conditions predisposing to hypokalemia and for patients on long-term therapy.

Supplied: Naturetin Tablets, 5 mg., scored, and 2.5 mg. Naturetin  $\bar{c}$  K (5  $\bar{c}$  500) Tablets, capsule-shaped, containing 5 mg. benzydrolflumethiazide and 500 mg. potassium chloride. Naturetin  $\bar{c}$  K (2.5  $\bar{c}$  500) Tablets, capsule-shaped, containing 2.5 mg. benzydrolflumethiazide and 500 mg. potassium chloride. For complete information consult package circular or write Professional Service Dept., Squibb, 745 Fifth Avenue, New York 22, N. Y. References: 1. David, N. A.; Porter, G. A., and Gray, R. H.: Monographs on Therapy 5:60 (Feb.) 1960. 2. Ford, R. V.: Current Therap. Res. 2:92 (Mar.) 1960.

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# SO FEW SPEND SO MUCH

## Audit of Americans' \$16 billion expenditure for health care shows one-third of families buy three-fourths of the services

Which patients spend the most on health in the U.S. each year?

They're the biggest families with the biggest incomes. They pay between \$300 and \$1,000 annually for medical care. They see their doctors and go to the hospital more often, carry more insurance and get more benefits than anyone else.

They spend three-fourths of all health money. But they make up only one-third of all American families.

Because so few people manage to spend so much (the U.S. total is \$16 billion), the Health Information Foundation and the National Opinion Research Center have just taken a close look at 2,941 U.S. families to see what income they receive and what kind of health care they buy.

HIF finds, first, that the median average medical expense for all American families is just \$168 a year. But the big-spending one-third has an average bill of \$685.

Excluding from its study all those who spend less than \$300, HIF sorted the rest into three groups: one spending between \$300 and \$499 a year, the second from \$500-999, and the third \$1,000 and up. About half the families are in group one, two-fifths in the middle and the remaining 15 per cent in the upper bracket.

### Biggest Budget Items

Just about half of the families in group one were in the \$5,000-plus income bracket; about 60 per cent of the moderately-high spenders make this much money, and considerably more than 60 per cent of the \$1,000-plus spenders are at the \$5,000-a-year income level (see chart).

The biggest single item in everybody's health budget is the doctor's bill, according to the HIF study. It accounts for about one-third of all expenditures, regardless of income bracket or total spending for health. But there are some differences in the items on the bill. The proportion spent for office calls goes down and that for

surgery goes up as the spending bracket gets higher. Hospital care becomes proportionately larger for high-spending families, while dental care, drug and medication costs drop.

In the area of outpatient visits, a striking change occurs. All families spend a fair amount of their budget for chronic illness care. But those that spend large amounts see their doctor much more often for this reason. Among moderate spenders only 43 per cent of all doctor's visits are for chronic conditions, whereas they account for 69 per cent of visits by high spenders.

Six in every ten families surveyed are covered by voluntary health insurance. But almost nine in ten of those who spend \$1,000 or more carry health-care policies.

The survey, according to HIF president George Bugbee, demonstrates how voluntary health insurance is doing its job.

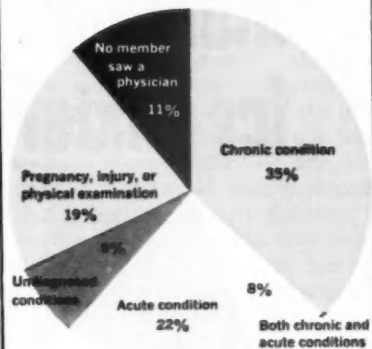
### Emphasis on Hospital Coverage

"Voluntary health insurance was originally designed to cover primarily the costs of hospital care and surgery," he notes. "For families with expenditures of \$1,000 or more a year, these two items represent 49 per cent of expenditures for all types of medical care.

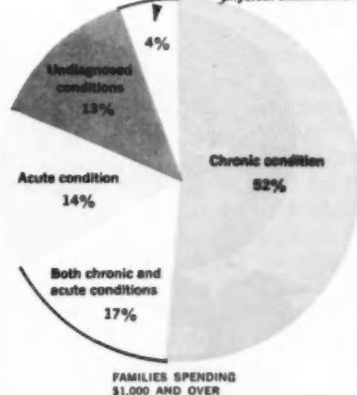
"As a general premise, then, the emphasis on hospital coverage was sound: whereas families spending \$300 or less on all medical costs have only 8 per cent of their expenditures covered, families spending \$1,000 or more have 35 per cent of their total medical costs met by insurance.

"But the study confirms the importance of the current trend toward broader health insurance coverage for those families experiencing high expenses," the HIF president states. "The highest-spending families — \$1,000 or more — had an average of 38.9 physician visits during the year. Even by the gross measures used in this study, in some 69 per cent of these highest-spending families at least one member was seeing a physician for chronic illness. This points up the role of physicians' charges in this increasingly important category of illness—and the need for coverage of these costs by insurance."

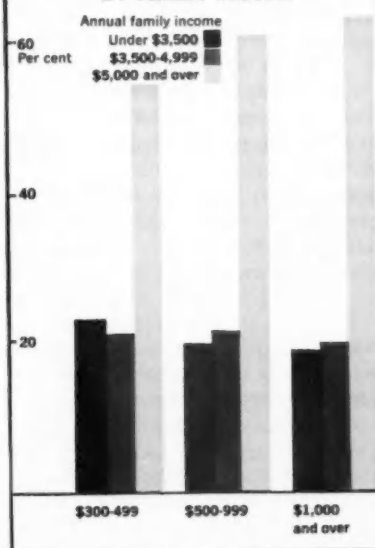
PERCENTAGE OF HEALTH COSTS FOR VARIOUS CONDITIONS



ALL FAMILIES

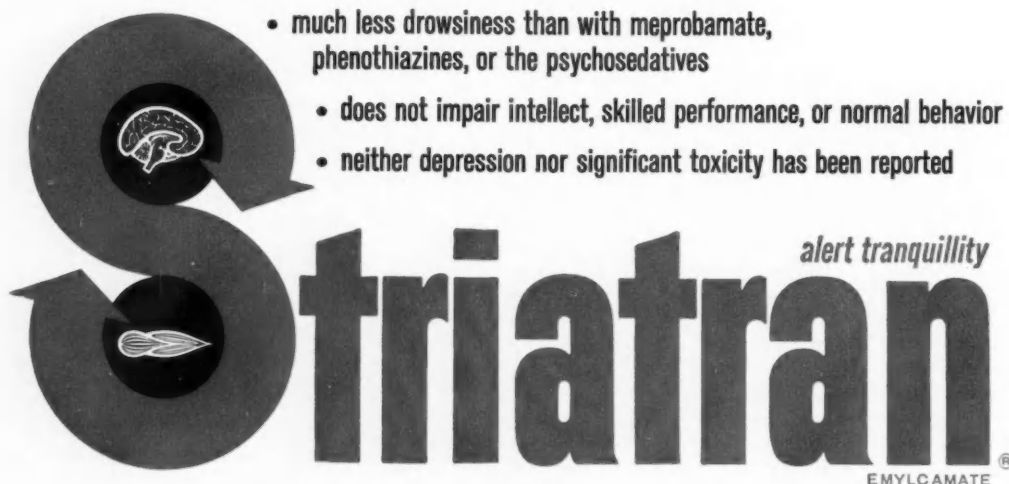


EXPENDITURES FOR HEALTH BY FAMILY INCOME



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- does not impair intellect, skilled performance, or normal behavior
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 **Striatran** *alert tranquillity*  
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- simple, uncomplicated dosage, providing a wide margin of safety for office use

**STRIATRAN** is indicated in anxiety and tension, occurring alone or in association with a variety of clinical conditions.

**Adult Dosage:** One tablet three times daily, preferably just before meals. In insomnia due to emotional tension, an additional tablet at bedtime usually affords sufficient relaxation to permit natural sleep.

**Supply:** 200 mg. tablets, coated pink, bottles of 100.

While no absolute contraindications have been found for Striatran in full recommended dosage, the usual precautions and observations for new drugs are advised.

For additional information, write Professional Services,  
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# SPECIALY-BRED ANIMAL INHERITS DIABETES

**Genetically susceptible hamster points up role of stress in the etiology of the disease**

By intensive inbreeding of Chinese hamsters, the first laboratory animal that is hereditarily prone to diabetes mellitus has been produced by a Boston research team. In effect, the investigators have developed a diabetic ward on a lab shelf.

Speaking before a New York Diabetes Association symposium, Dr. George Yerganian of the Children's Cancer Research Foundation noted that experimental use of the animals may help to elucidate the biochemistry of the disease and should greatly facilitate study of new anti-diabetic drugs.

The Boston group has been breeding Chinese hamsters—small rodents more akin to mice than to the better-known golden hamster—for ten years, as a phase of cancer research. After four generations of brother-sister matings, they were surprised to observe polyuria and ketonuria in some.

The disease was first attributed to an itinerant infection, but pathological and chemical studies by Drs. Hans Meier and Sidney Farber have established that the animals suffer from a

true hereditary diabetes mellitus. The hamsters show typical islet-cell degeneration in the pancreas, characteristic pathological changes in kidney and liver, periodontosis (including gingival pocketing and osteoporosis) and sometimes retinal vessel degeneration.

The Boston group ascribes the diabetes to two specific genes—one producing hyperglycemia, the other polyuria—plus an unknown number of "modifier" genes. Continued inbreeding, by strengthening the influence of the modifiers, widens incidence of the disease and hastens its onset, they have found.

The team finds that the disease can be precipitated by "stress" in hereditarily susceptible animals. This discovery came about accidentally, when some litters had to be caged together after puberty to save space. Forced into close proximity (in nature, sexually mature hamsters prefer solitude) the animals "develop a brutal social order" based on "henpecking" by the largest female in the litter.

The feminine dictatorship produces a decided jump in the incidence of diabetes, most markedly among the matriarchs themselves and the larger and less henpecked males. These observations, suggests Dr. Yerganian,

may be relevant to "the frequency of diabetes among individuals of different social levels" in the human species.

Cortisone stress also precipitates the disease, but only among male animals in which traces of urinary glucose indicate susceptibility. In other males and in females, the hormone induces only transitory glycosuria. Moreover, these animals appear to acquire "immunity" to further doses of the drug. "The sensitivity of males to cortisone-induced diabetes may be due to a missing segment of genetic material that otherwise imparts feminine or estrogen dominance," the team says.

Stress, the investigators sum up, produces diabetes in susceptible animals "immediately upon sexual maturation. In the absence of stress, the animal can remain clear of symptoms for lengthy periods." They speculate that "aging beyond the life expectancy encountered in the natural habitat may produce another form of stress."

The diabetes-prone hamsters are already being studied in several laboratories, where their high urine output (at least 40 cc per day) ensures a plentiful supply of material for the pathologist or biochemist. Main obstacle to their wider use, says Dr. Yerganian, is the difficulty of shipping diabetic animals due to their inordinate need for water. The Boston group hopes to develop sublines which will develop the disease later in life, after shipping and breeding. ■

## Product News

### TO CONTROL BLEEDING

*Surgical* Absorbable Hemostat (Johnson & Johnson) controls bleeding by producing an artificial clot within one or two minutes. Made of a soluble cellulose, it conforms to irregular contours in organs, adheres to bleeding or oozing surfaces without sticking to gloves or instruments, does not fragment, does not vary in absorbent quality or tissue reactivity and is absorbed by body tissues within 15 days without any toxic effects. It stems hemorrhage during operations on the heart, brain, spleen, liver and other organs and can replace or supplement ligatures or sutures in deep surgical wounds.

In skin grafting *Surgical* can be used as the primary dressing on donor sites and it controls bleeding in hemophilia and similar blood anomalies, oral and

throat surgery, and severe nose bleeds. Supplied in gauze-like strips or carded fiber pads; it should be applied dry.

### IN EDEMA, HYPERTENSION

*NaClex* (Robins) provides benzthiazide to promote diuresis. Indicated in edema associated with congestive heart failure, cirrhosis of the liver, chronic renal diseases (including nephrosis), premenstrual tension, toxemia of pregnancy and obesity. In addition, it is useful in mild hypertension and it may be employed in more severe cases with other antihypertensives. Dosage ranges from 50 to 200 mg daily, depending on the condition and on the precautions, which are similar to those for other thiazides. Side effects can usually be overcome by adjusting the electrolyte balance through dietary supplement, lowering the dose

or administering the antidiuretic only after meals. Supplied as 50 mg tablets.

### FOR METABOLIC BALANCE

*Adroyd* (Parke-Davis), an anabolic steroid, oxymetholone, helps restore or maintain proper metabolic balance in postsurgical, postinfectious and convalescent patients, increases weight gain in underweight individuals and promotes protein synthesis in certain geriatric patients. Since it has some androgenic effect, it should be used with caution in persons with cardiac disease or liver damage, and in preadolescents. It is contraindicated in nephritis, nephrosis and prostatic carcinoma. Daily dosage for adults is 10 to 30 mg, as indicated; for children, 5 to 10 mg. A single course should not exceed 90 days. Available as 10 mg tablets.

Introducing...

**Miluretic\***  
MILTOWN® + HYDROCHLOROTHIAZIDE

**new therapy for  
hypertension  
and  
congestive  
failure**

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WALLACE LABORATORIES / Cranbury, N.J.

\*Trade-mark

# lowers blood pressure drains excess water calms apprehension

Created especially for those patients whose emotional condition complicates the treatment of hypertension and congestive failure

Now for the first time, the most widely prescribed diuretic-antihypertensive, hydrochlorothiazide, is combined with the most widely prescribed tranquilizer, meprobamate. Called "Miluretic," it constitutes new, effective therapy for hypertension and congestive failure—*especially when emotional factors complicate treatment.*

What does Miluretic do? Both components are of proven value in the management of hypertension. And in congestive failure, Miluretic induces smooth, continuous diuresis. Miluretic's biggest advantage is that it tranquilizes hypertensive and edematous patients safely and quickly—a *boon to the physician*

*whose patients' emotional reaction to their condition complicates therapy.*

## **Avoids side effects of other antihypertensive agents**

Antihypertensive agents derived from Rauwolfia often cause reactions such as depression and nasal congestion; Miluretic does not.

Miluretic is a highly effective, safe combination that gives the physician new convenience in the treatment of hypertension and congestive failure—at a lower price to the patient than if the drugs were administered separately.

# **new** Miluretic

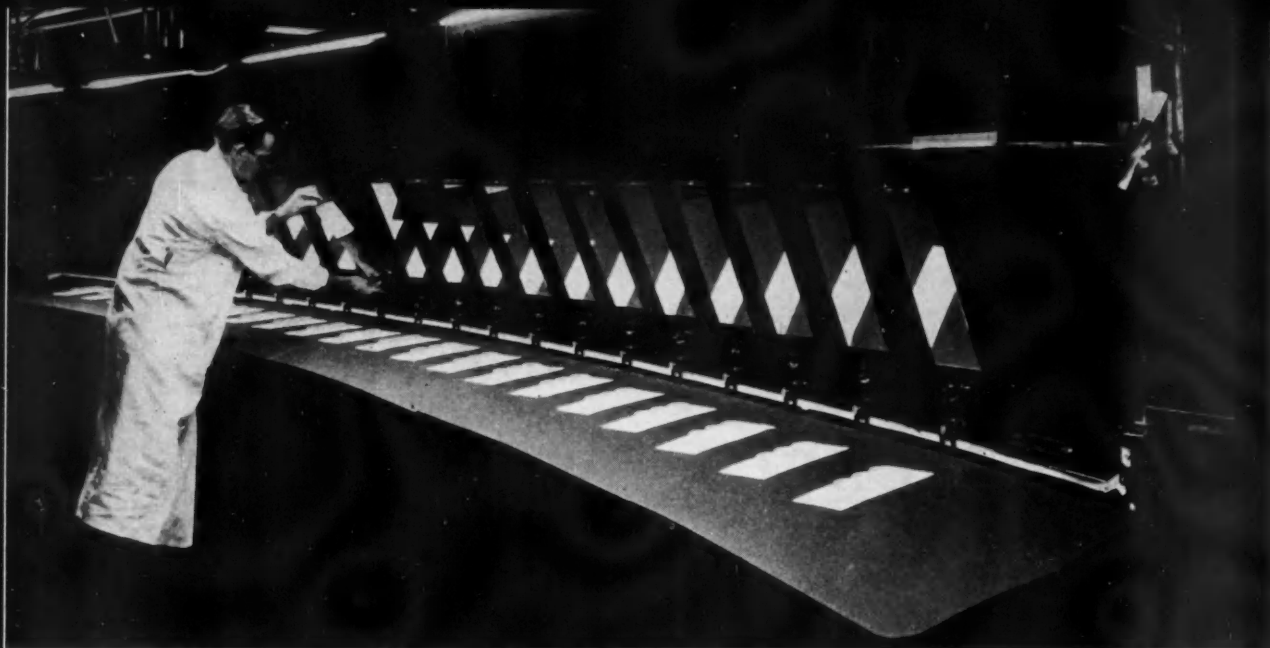
MILTOWN + HYDROCHLOROTHIAZIDE

## **Available at all pharmacies**

**Composition:** 200 mg. Miltown (meprobamate, Wallace)  
+ 25 mg. hydrochlorothiazide

**Dosage:** For hypertension, 1 tablet four times a day. For congestive failure, 2 tablets four times a day.

**Supplied:** Bottles of 50 white, scored tablets



## WORLD'S LARGEST SPECTROGRAPH

**Massive device at the Argonne Laboratories enables a team of researchers to explore effect of light rays on cell chemistry**

In the dark basement of an inconspicuous three-story building at the Argonne National Laboratories outside Chicago, a technician flipped a control switch. In an instant, a brilliant panorama of violet, indigo, blue, green, yellow, orange and red, 20 feet long and 9 inches high, bathed the area.

This blazing spectrum is produced by the world's largest spectrograph,

built at a cost of \$20,000 and extending through four light-proof rooms. With the aid of this massive device, investigators are probing the effects of specific wave lengths of light—both visible and invisible—on the biochemistry of living cells in plants and animals.

At the heart of the unique machine is the carbon arc of a converted movie projector. The brilliant light is gathered by two quartz lenses and projected through a 5-inch-high slit onto a 20-inch curved mirror. The mirror reflects the beam onto a diffraction grating—an 8 by 10 inch pane of special glass on which lines have been etched at the density of 15,000 per square inch. It is this grating that breaks up the beam into a full spectrum.

During experiments, any of the distinct colors of the spectrum can be focused on biological specimens by angled vertical mirrors. Says one of the investigators: "We can narrow down the wave lengths to as low as one millimicron within a space of one centimeter."

Some startling phenomena have been disclosed. For example, Dr. Charles F. Ehret, microbiologist who directed the construction of the device, finds that the one-celled paramecium's

24-hour mating cycle is lengthened by as much as 4½ hours when visible light is focused on the organism. A substance in the paramecium's cilia enables it to attach itself to one of the opposite sex. The daily production of this substance is regulated by the paramecium's "biologic clock."

Ultraviolet light has an even more remarkable influence on the paramecium. Various frequencies shorten or lengthen the mating cycle. Dr. Ehret

**SEED** germination is blocked by far



**TECHNICIAN** Paul Ellwanger examines light-separating diffraction grating.



believes that the ultraviolet light acts on nucleic acid synthesis, particularly on one of its precursors, adenine.

In another series of studies, plant physiologists Solon A. Gordon and Kenneth Surrey have been able to promote or inhibit the cellular synthesis of adenosine triphosphate (ATP) in both plants and animals by use of specific light.

Normally, ATP is constantly being broken down to adenosine diphosphate (ADP) with the release of energy from the high phosphate bond. To replenish this energy, the cell's mitochondria must constantly generate ATP from ADP. Studying ATP formation in lettuce and oats, Drs. Gordon and Surrey place seeds in solutions of radioactive phosphorus ( $P^{32}$ ). These seeds need red light for germination, in addition to warmth and moisture. If, instead, they are placed in the far red wave length of the spectrum, the seeds form little organic phosphate and do not germinate.

But when placed in visible red light, even for a few minutes, the seeds take up more  $P^{32}$ —indicating rapid formation of energy phosphate—and germinate. Germination slows down if they are again placed under far red wave lengths.

The same process, the investigators find, takes place in animals. Mitochondria from the livers of young rats alter ATP production in response to visible red and far red wave lengths. Dr. Gordon and Mrs. Agnes Stroud, a cellular biologist, in studying the effect of light

on ascites tumor cells in mice, noticed that far red is more effective if it follows x-ray irradiation of the tumor cells than if it precedes it. Their conclusion: far red more than doubles the damage to chromosomes caused by x-rays and can be correlated with x-ray inhibition of the ascites cells' ability to make ATP.

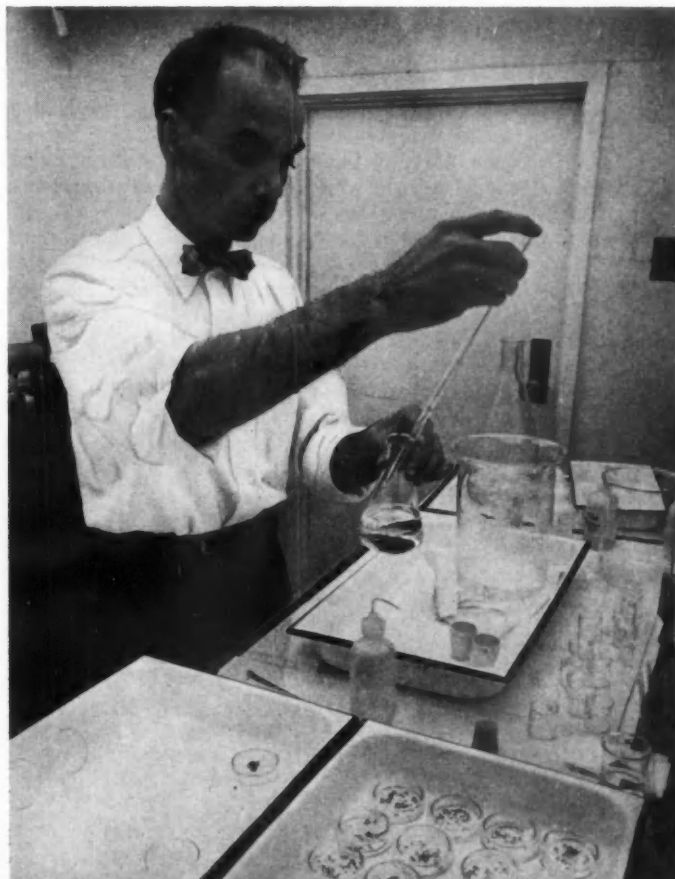
There are several puzzles that the Argonne investigators believe may be unraveled by spectrograph research in the future. One is the explanation and identification of the frequencies of ultraviolet in sunlight that are carcinogenic.

Another is the mechanism that controls wakefulness and sleep in humans. "Once we understand the chemistry of nature's time clocks," says Dr. Ehret, "we will have a way to probe that mechanism. And there's the interesting possibility that by controlling these chemical 'time clocks,' we could eliminate the feeling of sleepiness." ■



DR. GORDON calculates the influence of waves on ascites tumor cells.

PLANT physiologist Kenneth Surrey prepares seeds for  $P^{32}$  uptake tests.



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# Editor's Choice

By special arrangement, MEDICAL WORLD NEWS presents abstracts of articles concurrently with original publication in leading specialty journals. The editors' selections are intended as a representative cross-section of current medical literature

## THE FUTURE OF PEDIATRICS TIED TO CHILDREN'S NEEDS

There is a growing opinion that pediatrics is losing its appeal and prestige as a medical specialty in the U. S., and not entirely because of the marked recent improvement in child health in this country. No one can deny the importance of keeping the career of pediatrics a satisfying one, but this is more apt to be achieved by accurate prediction of the opportunities that lie ahead rather than by exhaustive enumeration of the advantages of the past and present.

The question that bothers anyone considering pediatrics as a career is: What sort of opportunities does this specialty offer for a challenging and rewarding life, either in practice or in academic pursuit?

The current controversial situation calls for a candid review of the place of pediatricians. Excessive self-analysis by those now in the field, without due regard for the future needs of the young themselves, could prove futile. *C. D. May; Am. J. Dis. Child., Nov. 1960, pp. 13-20.*

## DON'T USE SPINAL TAP FOR WATER INTOXICATION

Teetotalling rabbits who go overboard on H<sub>2</sub>O may find the stuff literally going to their heads.

Young male rabbits, New Zealand strain, underwent a variety of pharmacologic and physical tests while in a state of intoxication induced by infusion of 2.5 per cent aqueous glucose containing 0.2 mU vasopressin per ml.

The experiments showed that the typical EEG changes were not related to a rise in CNS pressure. This implies that lumbar puncture to relieve CNS pressure in humans with water intoxication is of no value and may actually cause herniation of the brain.

Rather, the seizures which occurred in about 25 per cent of the rabbits correlated with increased brain water. This appears to be responsible for the

clinical signs characteristic of the disease. Water intoxication also relates directly to a reduction in serum osmolality rather than to a decrease in serum sodium and chloride, since recovery followed even after infusion of mannitol and urea, which further lower these ions. *Dodge, Crawford, Probst; AMA Arch. Neurol., Nov. 1960, pp. 33-48.*

## ATHEROMATOUS LESIONS COMMON IN EXTRACRANIAL CAROTID

Ubiquitous may be the word for atherosclerosis. Necropsy studies of 100 randomly-chosen persons over 50 revealed degenerative arteriopathy of the atherosclerotic type in all. While the degree of involvement varied, in 40 at least one artery or one ostium at the aorta had stenosed to such an extent that half or more of the original lumen was destroyed. Most severe atherosclerotic stenosis was at the origin of the internal carotid artery and carotid sinus.

A significantly greater degree of pathologic change was present in the cervical arteries of those who had cardiomegaly associated with hypertension. There was also substantial correlation between the extent of the changes involving the cervical arteries and the incidence of myocardial infarcts.

These findings affirm an earlier suspicion that atheromatous lesions are commonly present in the extracranial carotid artery. *Martin, Whisnant and Sayre; AMA Arch. Neurol., Nov. 1960, pp. 50-58.*

## FOUR-IN-ONE VACCINE GETS GOOD ANTIBODY RESPONSE

One shot in the arm is better than two, as every child knows.

A quadruple vaccine to immunize against polio, diphtheria, tetanus and pertussis with one shot given at approximately monthly intervals for a series of three injections might thus prove a boon to the timid. Further-

more, the quadruple vaccine appears to be more effective than polio (Salk) vaccine and DTP administered separately.

Comparison tests of the new vaccine with polio vaccine and DTP in 192 children revealed that polio antibody response to the quadruple vaccine was greater than to polio vaccine alone. And the diphtheria antibody response to the quadruple vaccine was greater than to DTP. Tetanus and pertussis antibody responses, however, were about the same for both triple and quadruple vaccines.

Effectiveness was judged by the level of antibodies in blood samples taken before and after the course of injections. Response to the polio vaccine was considered primary since complete immunization requires a reinforcing dose not less than six months after the first series of injections. *Bordt, Whalen, Boyer, Pursell and Staffieri; JAMA, Oct. 29, 1960, pp. 1166-69.*

## HAMSTERS HAVE CONVULSIONS AFTER DINING ON CREAM

A steady diet of peaches and cream may be good for the skin but it's downright lethal for the CNS—at least in hamsters.

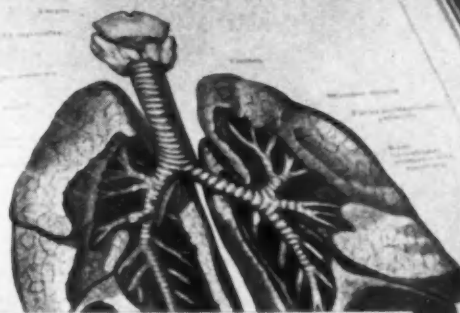
After large meals of cream — or synthetic lipids containing predominantly saturated fatty acids—these rodents invariably developed seizures. Severity and frequency of the attacks related directly to the amount of fat ingested.

No such convulsions, or only occasional ones, occurred after meals of vegetable or fish oils. And specifically with cod liver or safflower oil, in 10.0 gm/kg doses, no convulsions were noted at all.

EEG changes, correlated with measurement of available O<sub>2</sub> in the brain, showed that large amounts of saturated fats produced a sharp drop in brain oxygenation. With cream, the oxygenation fell by 32 per cent. But conversely, electrical seizures in the cerebral cortex tended to disappear when the hypoxia became marked.

These true epileptic seizures were only temporary focal convulsions in some animals, but in others, generalized attacks ended in death. *Swank and Nakamura; AMA Arch. Neurol., Nov. 1960, pp. 128-134.*

# SYNCILLIN



## ACUTE BRONCHITIS

## SYNCILLIN

250 mg. t.i.d. - 6 days

H.F. 45-year-old white female. First seen on Aug. 24, 1959 with acute bronchitis of 3 days' duration. Culture of the sputum revealed alpha hemolytic streptococci. A 250 mg. SYNCILLIN tablet was administered 3 times daily. Another sputum culture taken on Aug. 27 showed no growth. On Aug. 30, the patient appeared much improved and SYNCILLIN was discontinued.

Recovery uneventful.

Actual case summary from the files of Bristol Laboratories' Medical Department

THE ORIGINAL potassium phenethicillin

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(Potassium Penicillin-152)

A dosage form to meet the individual requirements of patients of all ages in home, office, clinic, and hospital:

Syncillin Tablets - 250 mg. (400,000 units) ... Syncillin Tablets - 125 mg. (200,000 units)

Syncillin for Oral Solution - 60 ml. bottles - when reconstituted, 125 mg. (200,000 units) per 5 ml.

Syncillin Pediatric Drops - 1.5 Gm. bottles. Calibrated dropper delivers 125 mg. (200,000 units)

Complete information on indications, dosage and precautions is included in the circular accompanying each package.

BRISTOL LABORATORIES, SYRACUSE, NEW YORK



# DOCTOR'S BUSINESS

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**Tax angles of buying a practice** Bureau of Internal Revenue officials say that doctors quite often err in figuring the price for another doctor's practice. First, you allocate a good hunk of the purchase price to "good will." This is nondepreciable—you'd do better to write a covenant protecting yourself against competition by the seller. Second, you fail to charge enough against supplies and materials. Such charges are deductible almost immediately, whereas allocations for equipment have to be stretched over a 10 to 20 year period. Third, you should allocate as much as possible of the purchase price to any assets you plan to sell. That way, you won't have to pay a whopping capital gains tax on the sale.

**New glass partitions permit sight without sound** For doctors planning offices a new soundproof laminated safety glass makes an excellent sound barrier while permitting complete visibility. Its secret is an interlayer (developed by Monsanto Chemical Co.) which converts sound waves into heat energy, thus deadening noise. Price runs between \$2 and \$3 a square foot.

**Stock Exchange to make good broker's fraud** Investors who are victimized by unscrupulous brokers now have a consolation they've never had before. For the first time in its 186-year history the New York Stock Exchange admits it has a "moral responsibility" for losses caused by frauds by its members—even though such cases are rare. The Exchange, which late in September expelled Boston's Du Pont, Homsey & Co. for "fraudulent acts," says it wants to reimburse the company's fleeced investors and take out insurance against future frauds.

**Chronic illness high in patients over 45** Almost four out of five patients over 65 have a chronic illness of one sort or another, and of these, two suffer from "mobility limitation." Basis for this estimate is a survey of 73,000 families by the Public Health Service. In the 45 to 54 age group, slightly more than half suffer from chronic afflictions, as do 83 per cent of those over 75. The PHS also asked how often they visited a doctor. Those over 65 said about seven times a year, while those between 45 and 54 reported an average of five visits. The study is being interpreted as ammunition for renewal of the fight for old age medical care when the new Administration takes office.



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- simple dosage schedule produces rapid, reliable tranquilization without unpredictable excitation
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*Usual dosage:* One or two 400 mg. tablets t.i.d.

*Supplied:* 400 mg. scored tablets, 200 mg. sugar-coated tablets; or as MEPROTABS®—400 mg. unmarked, coated tablets.

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# Letters to the Editor

## MORE ON BIRTH CONTROL

As Secretary of the Catholic Physicians' Guild of Denver, Colorado, I have been directed to advise you that the article entitled "A Catholic and a Protestant Discuss the Birth Control Issue" (MWN, Sept. 9) was a misrepresentation of the Catholic viewpoint.

The so-called "Catholic doctor" could never be considered as a spokesman for Catholic thinking on this issue. His thoughts and actions, as presented in the article, were those of one totally unaware of the basic principles of Catholic morals. A minority of readers will be misled by the article as most doctors, Catholic and Protestant, are well aware of the Catholic teaching as regards contraceptives.

PETER L. TOBIN, M.D.  
Secretary  
Catholic Physicians' Guild  
Denver, Colo.

MEDICAL WORLD NEWS has established a high level of honest reporting in the verbatim interview with two doctors discussing the Connecticut birth control law.

SOMERS H. STURGIS, M.D.  
Boston, Mass.

I am amazed and chagrined at this example of irresponsible reporting and editing.

Such a controversial subject matter would have necessitated a responsible Roman Catholic physician to give the Catholic viewpoint.

TIMOTHY L. CURRAN, M.D.  
Hartford, Conn.

## WOMEN GIVE VIEWS

I doubt any government's position in telling any person whether or not and under what circumstances he should reproduce. The prescription and use of contraceptives is regularly disregarded. It would seem that such a law would be better repealed.

VIRGINIA M. STUERMER, M.D.  
New Haven, Conn.

We in Connecticut have been trying for a long time to change the unjust law that prevents needy mothers from getting the advice on contraception that they need. Well-to-do mothers have no difficulty in getting help from

their private physicians. It is the poor, who formerly were helped by the Maternal Health Clinics, such as that which once operated in Hartford, who must suffer because of Connecticut's unjust law.

ELEANOR T. CALVERLEY, M.D.  
Hartford, Conn.

## URINARY INCONTINENCE

Would you kindly inform me where I can obtain the hollow prosthesis to control urinary incontinence (MWN, Sept. 23, *Late News*).

H. M. JUERGENS, M.D.  
Belle Plains, Minn.

[The prosthesis was developed by Dr. George Kulik, 1360 York Ave., N. Y. 21, N. Y., also inventor of the automatic fluid pump (see p. 4).—ED.]

## DEPARTMENT OF DEFENSE

We found the census article "MDs Yield to Lure of the City" (MWN, Sept. 23) very interesting.

The statement about the "Greener Fields" in San Diego, San Antonio and Norfolk, however, leaves us with a question:

Did the writer fail to count the large number of Navy and Air Force physicians assigned to military hospitals and installations who are helping to care for the population?

In San Diego, for example, there are 200 doctors at one Naval hospital and a rather large percentage of our population is composed of military personnel and their dependents.

BILL B. BURRIS  
San Diego County Medical Society  
San Diego, Calif.

[Navy and Air Force physicians were not counted because "the Department of Defense does not maintain figures on military physician and dependent strengths," according to Dr. E. H. Cushing, deputy assistant secretary of defense. "Likewise no distinction is made with respect to the number of dependents who obtain medical care from military as opposed to civilian sources."—ED.]

## FUND RAISING

Allow me to compliment you on your wonderful editorial "United Fund vs Individual Drives" (MWN, Oct. 7)

You mention that the interests of great national philanthropies extend beyond the mere collection of funds for research. I have long suspected that they sometimes include empire building, job perpetuation, ego titillation and certain other human foibles.

Let me compliment you also on MEDICAL WORLD NEWS, which I think is a whale of a publication.

CHARLES E. DUTCHESS, M.D.  
Newtown, Conn.

## SERIOUS WHIMSY

In Vol. 1, No. 10, under *Editor's Choice*, p. 22, you quoted Masserman's famed joke . . . if you, sir, did not, or if the *AMA Archives of General Psychiatry* did not know that this classic joke was a joke, then truly you're to be laughingly forgiven. In all fairness to workers in psychosomatics who still deplore extremity . . . you should note in your coming issues some day that Masserman was joking. . . .

JOHN W. A. TERRELL, M.D.  
Los Angeles, Calif.

If you knew Dr. Masserman . . . you would realize that in his clever and creative way he was satirizing some of the misguided missiles who are free-wheeling out of orbit and calling it psychosomatic theory. . . .

KONSTANTIN GEOCARIS, M.D.  
Tulsa, Okla.

[Dr. Masserman's article, which appeared in the September *AMA Archives of General Psychiatry*, was an adroit satire on the loose usage of words, particularly in medicine and psychiatry. In it, he recalls delivering his famed lampoon to a "sophisticated" group of internists, some of whom—to his consternation—took quite literally his humorous description of the ingrown toenail as a "hitherto obscure psychosomatic disorder."]

MEDICAL WORLD NEWS abstracted this bit of whimsy, hoping it would tantalize readers into perusing Dr. Masserman's original article. We apparently did not make clear to all that our tongue, like Dr. Masserman's, was in the cheek. To those who were misled—and those who were not—we recommend his full text.—ED.]



# Names in the News

## POSTS AND AWARDS

**Dr. Arthur S. Tucker**, University Hospitals, Cleveland, chosen president-elect of the Society for Pediatric Radiology.

**Dr. Lowell T. Coggeshall**, University of Chicago professor of medicine and tropical disease expert, to receive the 1960 medical achievement award of the Pharmaceutical Manufacturers Association.

**Dr. J. P. Tollman**, dean of the University of Nebraska College of Medicine, will take office Jan. 1 as president-elect of the Omaha Mid-West Clinical Society.

**Dr. H. Stanley Bennett**, immediate past president of the American Association of Anatomists, appointed dean of the division of biological sciences at the University of Chicago.



**Dr. Herman G. Weiskotten**, dean emeritus, State University of New York College of Medicine, Syracuse, awarded the 1960 Abraham Flexner medal by the Association of American Medical Colleges.

**Dr. William E. Carnahan**, 75-year-old Macomb, Ill., physician, named "Outstanding Illinois General Practitioner for 1961" by the Illinois State Medical Society. One-time horse-and-buggy doctor, he has delivered more than 3,000 babies without a maternal death.

**Dr. Lee F. Turlington** (below), of Birmingham, Ala., installed as president of the Southern Medical Association at annual meeting in St. Louis. **Dr. A. Clayton McCarty** of Louisville, Ky., was named president-elect.



**Dr. Lewis J. Griffith**, acting chief of laboratory at the Veterans' Hospital, Batavia, N. Y., received the Stitt

Award for outstanding achievement in antibiotic research. The award is sponsored by Pfizer Laboratories and was presented by the Association of Military Surgeons at its 67th annual meeting in Washington.

**Dr. Wendell M. Stanley**, University of California biochemist and Nobel laureate, awarded the bronze medal of the American Cancer Society for his great service to cancer control.

**Dr. Richard W. Vilter**, University of Cincinnati researcher, received Goldberger Award presented jointly by the AMA and the Nutrition Foundation.

## OBITUARIES

**Dr. Carl Williams**, 88, eye specialist and former star player and coach of the University of Pennsylvania football team; as a quarterback in 1894 he was involved in a controversial play that caused a 40 year break in football relations between Penn and Princeton; Nov. 8, in Pensburg, Pa.

**Dr. Emery A. Rovenstine**, 65, one of world's foremost anesthesiologists and chairman of New York University Medical Center's department of anesthesiology which he organized in 1935; besides training other physicians in his specialty, he developed many new drugs and techniques; of cancer, Nov. 9, in New York City.

**Dr. Christopher G. Parnall, Sr.**, 80, former medical director of the Rochester (N. Y.) General Hospital; he also planned the Universities of Michigan and Iowa hospitals and was a past president of the American Hospital Association; Nov. 6, in Detroit, Mich.

**Dr. Ralph Falk**, 76, co-founder and chairman of the board of Baxter Laboratories, Inc., surgeon and pioneer in developing safe solutions for intravenous feeding; Nov. 2, in Chicago.

**Dr. Herman Chor**, 56, neuropsychiatrist, member of the staff of Wesley Memorial Hospital, Chicago, and an associate professor in the department of neurology and psychiatry at Northwestern University Medical School; of a kidney ailment; Nov. 4, in Chicago.

## MEETINGS

- Dec. 9-10 The Myocardium — Its Biochemistry and Biophysics, New York City
- Dec. 9-11 American Psychoanalytic Assoc., New York City
- Dec. 12-14 Water Pollution, Nat'l Conf., Wash., D. C.
- Dec. 22-23 Panamerican Diabetic Congress, British Honduras
- Dec. 26-31 Amer. Assoc. for the Advancement of Science, New York City
- Dec. 27-28 Bahamas Surgical Convention, Nassau, Bahamas
- Jan. 7 Northwest Society for Clinical Research, Vancouver, B. C.
- Jan. 8-13 Amer. Acad. of Orthopaedic Surgeons, Miami Beach
- Jan. 16-18 Amer. College of Surgeons, Sectional, Birmingham, Ala.
- Jan. 26-28 Western Society for Clinical Research, Carmel-by-the-Sea, Calif.

## UPCOMING

- Feb. 25 Amer. Soc. of Internal Medicine, Phoenix, Ariz.
- Mar. 24 Georgia Society of Ophthalmology and Otolaryngology, Savannah
- April 17-20 Amer. Acad. of General Practice, Miami Beach
- May 22-24 Amer. Thoracic Society, Cincinnati

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# A PLETHORA OF PAPERS



Morris Fishbein, M.D.

In the annual report of the John and Mary R. Markle Foundation, John M. Russell, its president, has called attention to the "possibility of being smothered under a blanket of scientific publications now pouring off the presses at the rate of millions of articles each year." Many of these, he adds, are "worthless, or at least of questionable value."

For half a century scientists have been protesting against the multiplicity of papers that are published and have questioned the purpose and value of many of them. As a result, a sort of vicious circle has developed.

Medical research depends largely on grants from foundations, industry and government agencies. In order to convince them of the desirability of a particular project, the prospective scholar must submit previously published material to prove his competency to do research. Many researchers believe that the decision is more likely to be made on the number of papers involved than on scientific merit. For this reason, some of them spread their reports into 20 or 30 separate articles. And many scientists believe, too, that the volume of their work is a factor in securing a promotion or additional funds. Furthermore, when directors of research believe that an agency is specifically interested in certain projects, they may actually coerce a scientific investigator to work in an area in which he has little interest.

## Status-Seeking Scientists

The Markle Foundation president believes that it is "the unrelenting pressure put on our scientists to produce that has over-stimulated medical research, has encouraged work on marginal projects, has supported men of doubtful ability and has given a boost to the status seeker in medical science."

The number of scientific periodicals is growing—not only in the United States but elsewhere in the world, particularly Russia and Japan. Their publishers are constantly on the lookout for material but on occasion, in order to keep publishing, they are

forced to run articles not especially important to the advancement of medical science.

President Russell notes the growing availability of "easy money" beyond the actual need in certain fields. And he is convinced that the "publication explosion" has resulted to some extent from the emotional pressures that have been brought to bear on Congress to provide new funds.

In clinical medicine the published report has often been a medium of promotion and exploitation. Reports on new remedies appear in reprints which are widely circulated by manufacturers. Many clinics and groups of physicians make frequent mailings of publications of their members to general practitioners, no doubt with a view to calling to their attention the special types of work being done in the groups and clinics. This has for many, many years been an accepted practice among the medical profession. Nevertheless, an order by a group or a clinic of 75,000, or even a 100,000, reprints of articles that have been published should clearly indicate to the publishers that the reprints are to be used for promotional purposes. Some publishers have placed rigid restrictions on the number of reprints that they will supply.

No doubt the committees that make grants for research are aware of the uses to which reprints are put and are duly cautious in accepting the total number of such reprints as any indication of merit. Perhaps the medical profession may itself determine a code of conduct and restrictions related to the circulation of reprints as a means of commercial exploitation. For, as the Markle report concludes:

"Scientific papers should be the main means of communication between scientist and scientist, and between scientist and practitioner, but they should not be used for advertising purposes."

*Morris Fishbein*

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